



Montana Bureau of Mines and Geology

January 10, 2019

Daryl Reed, Hydrogeologist
Montana Department of Environmental Quality
1225 Cedar St
P.O. Box 200901
Helena, MT 59620-0901

**RE: CONTRACT NO. 415008-TO-2, BUTTE MINE FLOODING—DECEMBER 2018 MONTHLY REPORT,
BMFOU CONSENT DECREE 02-35-BU-SEH**

Dear Daryl:

Enclosed is the December 2018 monthly report for Contract No. 415008-TO-2, Butte Mine Flooding CD Monitoring. This report is in partial fulfillment of the terms contained in the Butte Mine Flooding Operable Unit Consent Decree-02-35-BU-SEH. The enclosed report briefly discusses the major activities undertaken during the month and presents data from monitoring activities.

Water level monitoring of the Granite Mountain Mine continues to be suspended due to an obstruction in the shaft and safety concerns around the mine headframe and shaft.

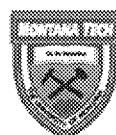
Water level monitoring of GS-41S and GS-41-D remains suspended until Phase I removal activities at the Parrot Tailings site are complete and new/replacement wells are installed.

The Berkeley Pit water level was surveyed by Common Sense Engineering and Surveying on January 1, 2019 and was at an elevation of 5,351.25 feet.

Figures referenced in the report are contained on the enclosed compact disc in a PDF file format. If you have questions about the project, or the enclosed report, do not hesitate to contact me. Electronic copies of the report (text only) and water-level data have been sent to the required parties, per Appendix C of the Consent Decree.

Sincerely,

Ted Duaime
Hydrogeologist



MontanaTech

Natural Resources Building | 1300 West Park Street | Butte, MT 59701 | 406-496-4159 | www.mbg.mtech.edu



Montana Bureau of Mines and Geology

TD: cm

Enclosures

xc: Nikia Greene, EPA
Mark Thompson, MR
Steve Walsh, MR
Loren Burmeister, AR (elec. only)
Tim Hilmo, AR (all report - elec. only)
Irene Montero, AR (elec. only)
Jim Jonas, Copper (all report - elec. only)
Julia Crain, BSB (elec. only)
Fritz Daily (elec. only)
Eric Hassler, BSB (elec. only)
Mark Schaffer, PTS (elec. only)
CTEC
File

Chapin Storrar, CDM (elec. only)
Karen Sullivan, BSB (elec. only)
Jon Sesso, BSB Courthouse
Tom Malloy, BSB Courthouse (elec. only)
Mark Neary, BSB Courthouse
Brandon Warner, BSB (elec. only)
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MBMG Butte Mine Flooding Monthly Report
BMFOU Consent Decree 02-35-BU-SEH
Remedial Action–Monitoring Program
Contract No. 415008-TO-2
December 2018

The Montana Bureau of Mines and Geology (MBMG) continued to perform monitoring and sampling activities for the Butte Mine Flooding Operable Unit (BMFOU), per the conditions of the 2002 Consent Decree as outlined in the Remedial Action Monitoring Program. Normal monthly activities include the monitoring of surface-water flows in the Horseshoe Bend (HSB) drainage, water-quality sampling of HSB, water-level monitoring, and report preparation.

Water-level monitoring at the Granite Mountain Mine continues to be suspended due to safety concerns around the mine headframe; an evaluation is underway looking at the feasibility of installing a monitoring well into the Granite Mountain workings for monitoring purposes. Previous monitoring noted an obstruction in the shaft at a depth of 420-ft; no water level monitoring has occurred since July 2016. AR and MBMG personnel inspected the remaining mine sites to identify potential safety issues that may affect the long-term monitoring program and none were found.

Horseshoe Bend Monitoring

Changes were made to monitoring activities in the HSB drainage. Recent mine site activities led to the deactivation of HSB Falls monitoring site in July 2018; no flow had been reported since November 15, 2017. Monitoring of the main HSB flow at the rectangular weir continued.

The average flow rate for the month at HSB weir and the change from the previous month is shown in Table 1, while a summary of average, maximum, minimum, and total flow at the HSB weir is attached at the end of the report (attachment 1). Graphs showing the daily average flow rates and cumulative flow rates are also attached (attachment 2).

| Monitoring Site | Monthly Avg. Flow (gpm) | Change from Previous Month (gpm) |
|-----------------|-------------------------|----------------------------------|
| HSB Drainage | 2,908 | 292 |

Table 1. Monthly Average Flow Rate and Change from Previous Month for the Horseshoe Bend Site.

MR continues to use a portion of the HSB water for the leach pads, which periodically change flows in this system. The first major use of HSB water occurred on September 20, 2012.

The HSB weir was replaced with a larger rectangular weir during December 2015; as part of this upgrade the non-contact radar sensor and staff gauge were relocated. Quality assurance testing of the radar sensor was conducted during May 2016; the signal-to-noise (SNR) ratio was 47. A SNR value of 15 or above represents high quality data collection. The average SNR during December was 40.4. Based on test results and monthly readings, high quality data continues to be collected at this site.

East Camp Alluvial System Monitoring

The East Camp alluvial groundwater monitoring system consists of the LP- and MR97-series wells located within the active mine area, and selected AMIC, GS, AMW, and BMF05-series wells. All of the wells associated with the four latter groups are located outside and to the south of the active mine area, with the exception of wells

AMC-5 and AMC-15, which are within the active mine area. Table 2 summarizes the water-level changes for the alluvial wells and presents the maximum water-level increase and decrease within each group. Well AMC-10 has been dry since its installation. The water-level variations seen in well LP-15 are the result of continued dewatering activities undertaken by MR to lower alluvial water levels. Graphs showing responses to pumping in well LP-15, and water levels for wells LP-15 and LP-16 are included on the accompanying compact disk; current and previous pumping influences are shown. Pressure transducers have been installed in wells LP-12, LP-13, and LP-16 to better monitor water-level fluctuations related to dewatering activities; hydrographs for these wells are included on the compact disk.

| Well Series (No. Wells) | No. Wells Water Level Increased | No. Wells Water Level Decreased | Max. Water-Level Increase | Max. Water-Level Decrease |
|----------------------------|------------------------------------|------------------------------------|------------------------------|------------------------------|
| LP (14) | 1 | 13 | 0.12 | -0.58 |
| MR97 (4) | 1 | 3 | 0.18 | -0.54 |
| AMC (7) | 0 | 6 | — | -0.33 |
| GS (4) | 0 | 4 | — | -0.34 |
| AMW (3) | 0 | 3 | — | -0.27 |
| BMF05 (4) | 0 | 4 | — | -0.32 |

Table 2. East Camp Alluvial Well Water-Level Changes.

Hydrographs for wells LP-1-LP-2-LP-4, LP-9-LP-10, and LP-14-LP-15-LP-16, showing the long-term trends are included on the accompanying compact disk. These wells are reflective of the general alluvial system within the active mine area and show greater variability, the result of historic and current mine operations and seasonal trends. Water levels in basin alluvial wells (wells outside the active mine area) decreased at a majority of sites this month in response to seasonal climatic conditions.

Twenty-four alluvial wells within the East Camp system are equipped with pressure transducers to record water-level changes every hour. These detailed records provide information on the daily and seasonal changes that occur within the regional groundwater system. Copies of the monthly and long-term hydrographs for each of these sites are included on the accompanying compact disk. Influences from on-going dewatering activities are noticeable on these graphs.

Figure 1 shows daily average water levels for wells LP-14, AMC-8, and BMF05-3. Well LP-14 is located on the southern edge of the mine property, well AMC-8 is just south of LP-14 outside the mine area, and well BMF05-3 is farther south in the basin. Wells LP-14 and AMC-8 have shown periodic influences from mining activities while well BMF05-3 is outside the area of influence of current or historic mining activity. An increasing water-level trend (long-term) was noticeable in wells LP-14 and AMC-8 from 2003-2011 followed by a decline from 2012-2015; water levels rose during much of 2016 into early 2017. Water levels steadily declined through much of 2017 and into 2018; water-level responses in both wells are similar. Water levels in well BMF05-3 depict a more seasonal trend, with little overall net water-level change. The influence of irrigation wells near sites BMF05-3 and BMF05-4 during the summer and fall months is apparent on the monthly well hydrographs.

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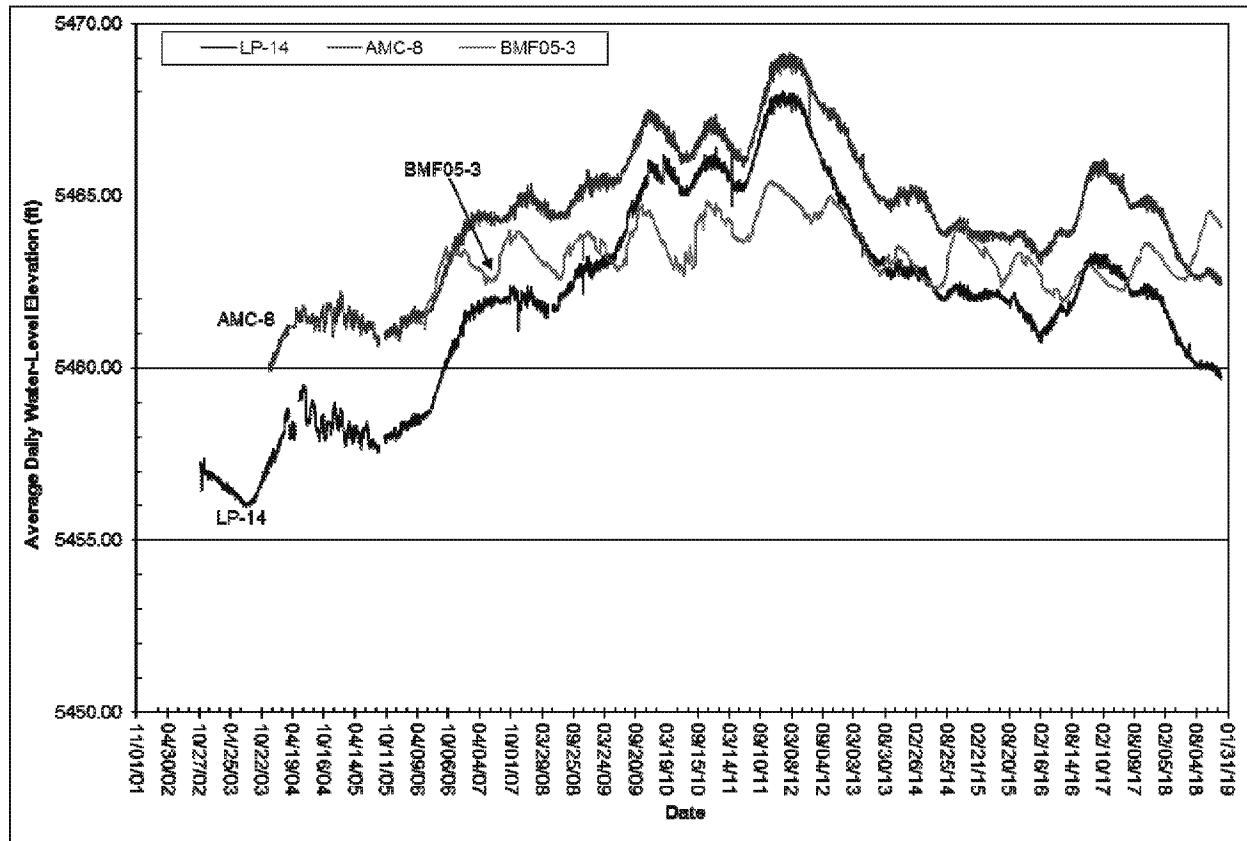


Figure 1. Hydrograph showing water-level elevations for alluvial wells LP-14, AMC-8, and BMF05-3.

The GS-series wells are two pairs of nested wells, a shallow and a deep well, within the alluvial aquifer. Figure 2 is a hydrograph showing the water levels for wells GS-44S and GS-44D. The water-level changes shown on this graph are similar to those for the GS-46S and GS-46D nested wells; water levels increase from snowmelt in late spring and precipitation during the summer followed by water-level declines in the fall and winter.

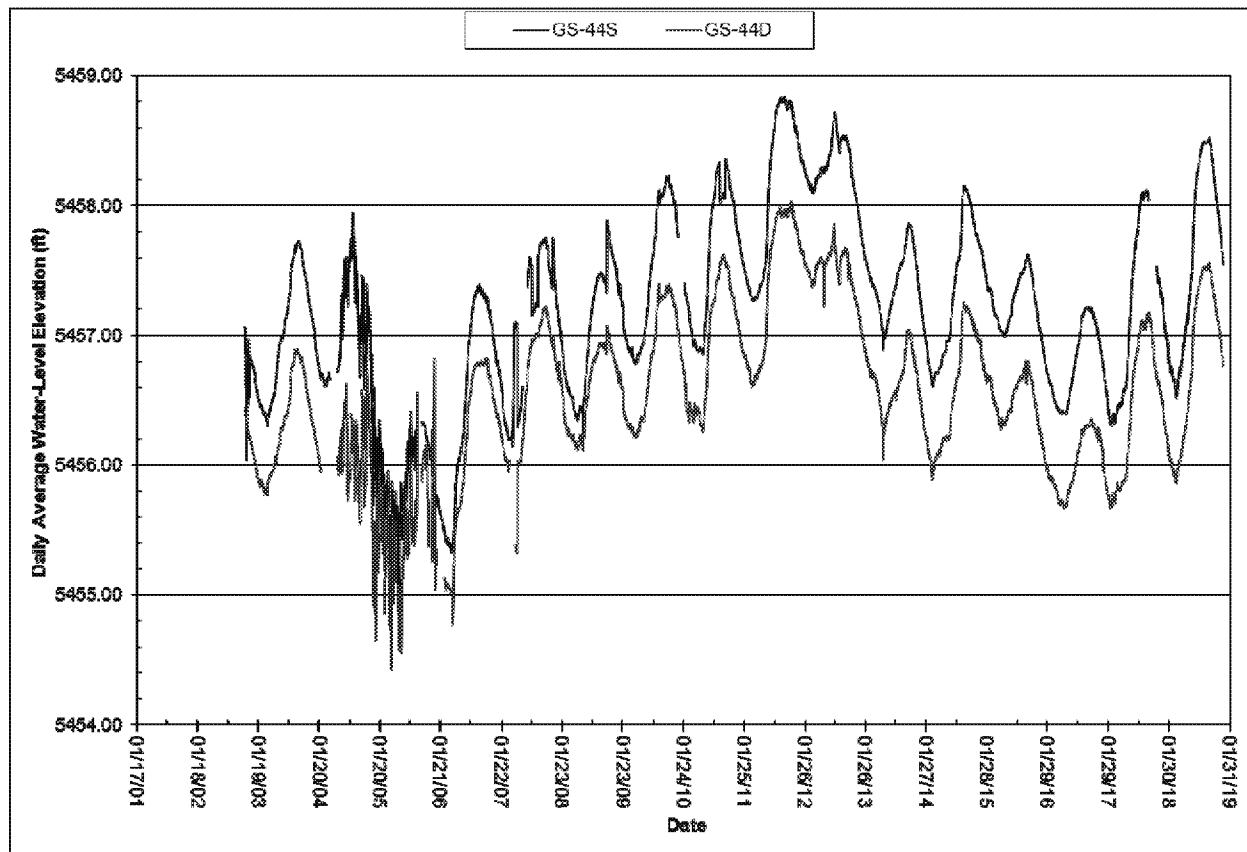


Figure 2. Hydrograph showing water-level elevations for alluvial wells GS-44S and GS-44D.

East Camp Mine and Bedrock System

The East Camp bedrock system consists of six underground mines, 10 bedrock wells within the active mine area, and three bedrock wells outside the active mine area. The latter wells are located at Hebgen, Parrot, and Belmont parks. The Berkeley Pit is part of the East Camp bedrock monitoring system. Due to an obstruction in the Granite Mountain - mine shaft, no water level was obtained this month. Bedrock wells DDH-2 and DDH-8 were abandoned the end of August due to casing integrity issues and expansion of mine operations. These wells were part of an Anaconda Company deep diamond-drilling program in the late 1970s and early 1980s and were not designed for monitoring purposes; bedrock monitoring wells installed during the RI/FS are in the vicinity of the abandoned wells, therefore there should not be any negative impact to the monitoring network.

The 1994 Record of Decision (ROD) and 2002 Consent Decree (CD) established the maximum level that water in the East Camp bedrock system will be allowed to rise to, and is based upon fourteen compliance points within that system. The compliance points are bedrock wells A, C, D-1, D-2, G, J, and Belmont well #2, plus the following mine shafts: Anselmo, Steward, Pilot Butte, Granite Mountain, Lexington, Kelley, and Continental Pit, or its monitoring well located at the Sarsfield Shaft. Under the conditions contained in the CD, the water level in the bedrock system cannot exceed the Critical Water Level (CWL) of 5,410 ft elevation at any of the compliance points, ensuring that the water level in the Berkeley Pit remains the lowest point within the East Camp bedrock system. Table 3 contains the most recent monthly water levels for selected compliance points and the Berkeley

Pit, and the depth below the CWL. Currently, the water level is highest in the Pilot Butte Mine, with the water level 33.14 ft. below the CWL.

| Compliance Point | Monthly Water Level (ft) | Depth Below CWL (ft) |
|-----------------------|--------------------------|----------------------|
| Anselmo Mine | 5,372.20 | 37.80 |
| Granite Mountain Mine | NR | — |
| Pilot Butte Mine | 5,376.86 | 33.14 |
| Kelley Mine | 5363.59 | 46.41 |
| Belmont Well #2 | 5,362.90 | 47.10 |
| Well A | 5,363.11 | 46.89 |
| Well C | 5,356.50 | 53.50 |
| Well G | 5,366.15 | 43.85 |
| Berkeley Pit | 5,351.25 | 58.75 |

Table 3. Selected Compliance Points Monthly Water-Level Elevation and Depth Below Critical Water Level (CWL).

Copies of water-level data are attached and graphs from selected sites are included on the accompanying compact disk. Table 4 summarizes the water-level changes for the past month within the East Camp bedrock system, along with the maximum changes within each group of monitoring sites. Within the East Camp bedrock system, 11 wells and 5 mine shafts are equipped with pressure transducers that record hourly water-level changes.

The transducer was replaced in the Kelley shaft and a manual water level was measured in an attempt to resolve issues with readings recorded the past several months. No visible damage was noted to the direct read cable or the transducer. The removed transducer passed all calibration and diagnostic tests. Only one day of usable data was obtained from the transducer this month. Based on temperature readings, it appears the transducer is out of water for most of the month; recorded temperatures were about 10°C while water temperatures are over 30°C.

| Monitoring Sites (No. Mines/Wells) | No. Sites Water Level Increased | No. Sites Water Level Decreased | Max. Water-Level Increase | Max. Water-Level Decrease |
|--|---------------------------------------|---------------------------------------|------------------------------|------------------------------|
| Mine Shafts (6) | 5 | 0 | 1.22 | — |
| Bedrock Wells within Active Mine Area (10)** | 9 | 1 | 0.53 | -0.19 |
| Bedrock Wells outside Active Mine Area (3) | 0 | 3 | — | -2.70 |

**Includes Belmont Well #2.

Table 4. East Camp Bedrock Water-Level Changes.

Copies of the monthly and long-term hydrographs for each site are included with the accompanying compact disk. Figure 3 is a hydrograph showing a comparison of daily average water-level elevations for wells A, C, and G. Water levels continue an upward trend, reflecting groundwater recovery from historic mine-dewatering practices.

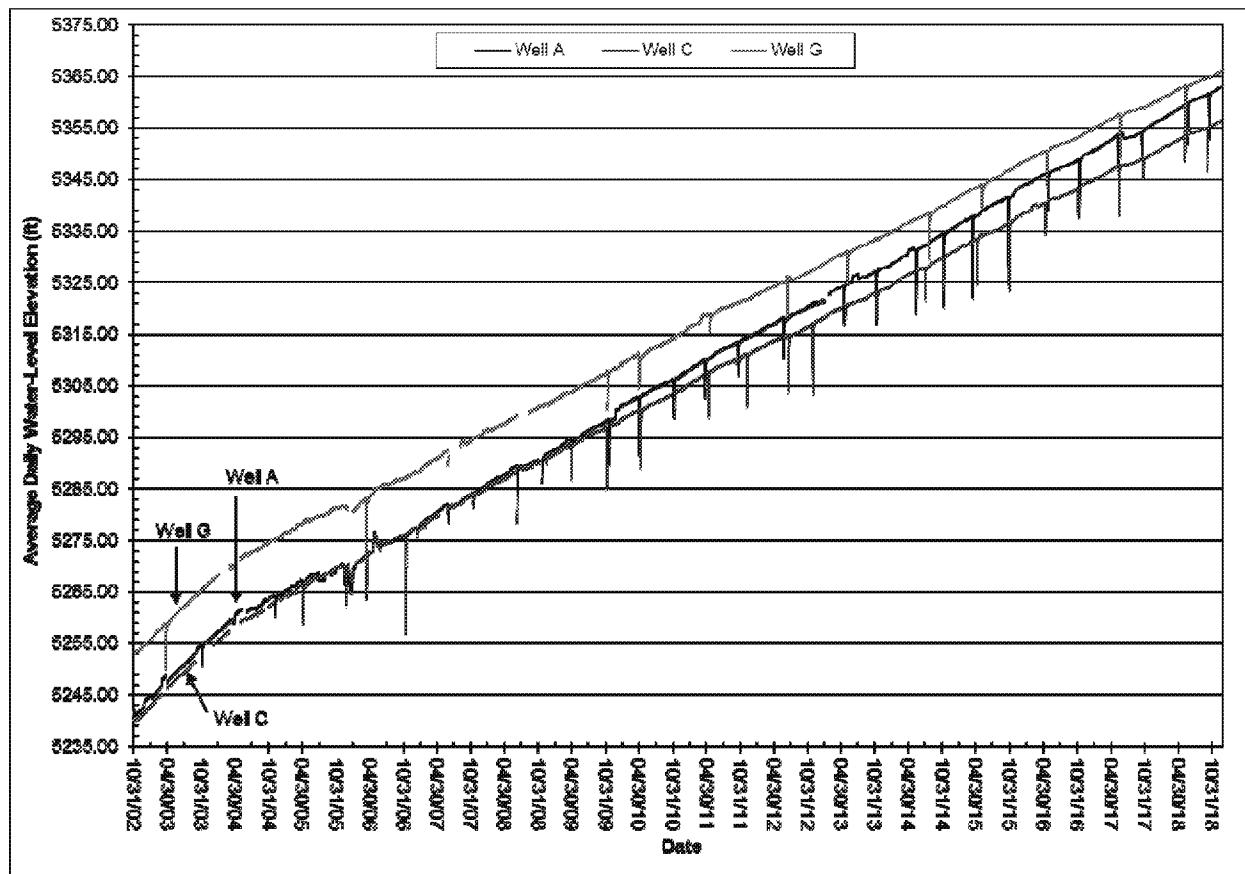


Figure 3. Hydrograph showing water-level elevations for bedrock wells A, C, and G.

West Camp System

The West Camp monitoring system consists of three underground mines: Emma, Ophir, Travona, and six monitoring wells. Table 5 summarizes the water-level changes for the past month within the West Camp bedrock system, along with the maximum changes within each group of monitoring sites.

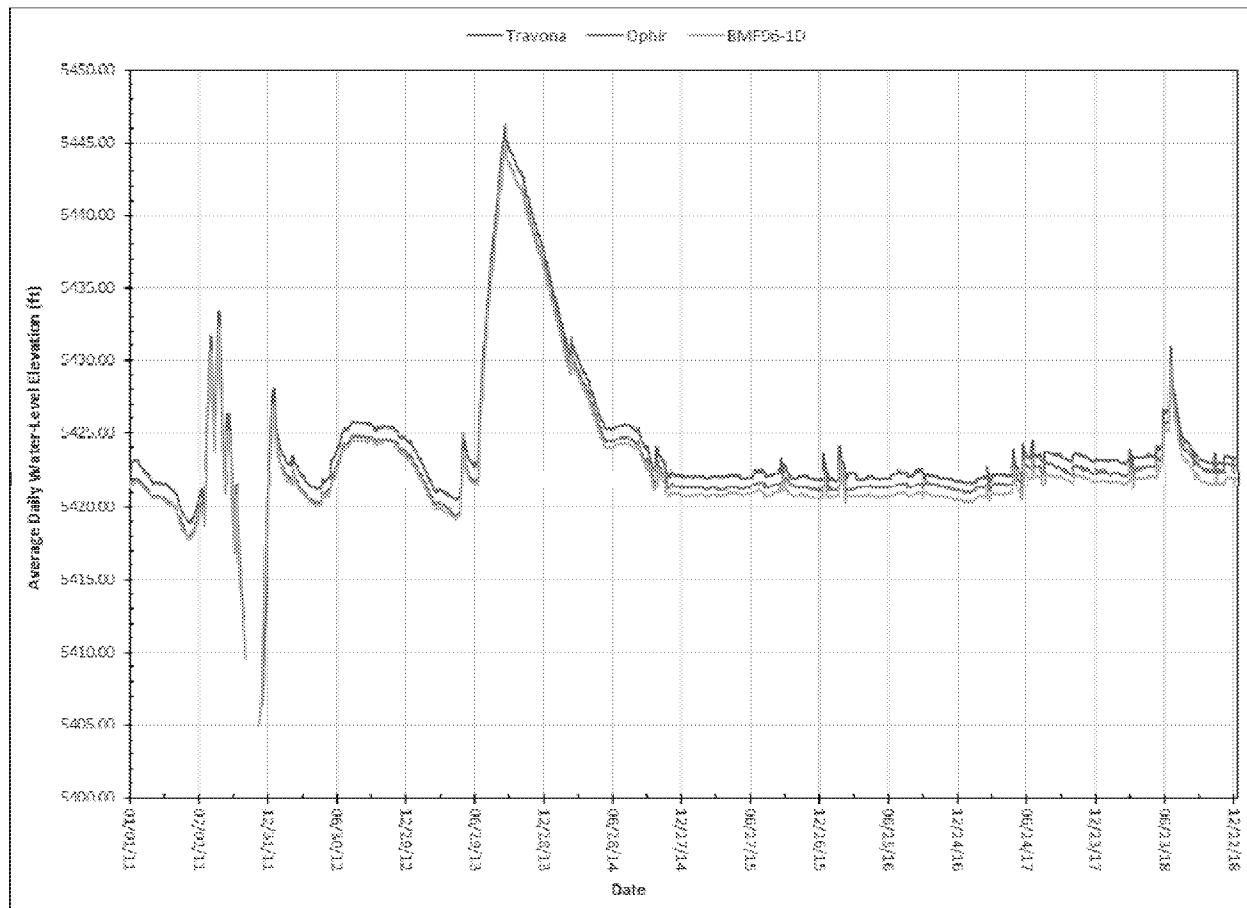
| Monitoring Sites (No. Mines/Wells) | No. Sites Water Level Increased | No. Sites Water Level Decreased | Max. Water-Level Increase | Max. Water-Level Decrease |
|---------------------------------------|---------------------------------------|---------------------------------------|------------------------------|------------------------------|
| Mine Shafts (3) | 0 | 3 | — | -0.11 |
| Bedrock Wells (6) | 0 | 6 | — | -2.52 |

Table 5. West Camp Bedrock Water-Level Changes.

The ROD and CD established a CWL for the West Camp bedrock system of 5,435 ft, as measured at well BMF96-1D; the current water level is over 12 ft. below the West Camp's compliance point. Water levels in the West Camp underground mine system are controlled by pumping groundwater from well WCP-1, which is completed in the Travona Mine 800-level workings (approx. 500 ft below ground surface). More than 27.5 acre-ft of water was pumped this past month, with pumping rates varying between 200 and 250 gpm. Monthly transducer hydrographs show water-level variations due to changes in pumping rates.

Six monitoring wells and two mines in the West Camp are equipped with pressure transducers that record water-level changes every hour. Two of the wells (BMF96-1D and BMF96-1S) are located adjacent to the WCP-1, with well BMF96-1D completed in the same mine workings as WCP-1; well BMF96-1S is completed in the shallow, weathered bedrock. Figure 4 is a hydrograph showing average daily water levels for the two mines and well BMF96-1D through December 2018. The water-level variations seen in these sites are the direct result of pumping changes relating to Butte Priority Soils (BPS) activities.

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Outer Camp Systems

The Outer Camp monitoring system consists of two underground mines and bedrock well near each mine. Water levels decreased at two sites and rose in two sites during December. The Outer Camp has no CWL or compliance monitoring points. Water levels in this area were assumed to be at or near pre-mining levels. Continuous water levels were monitored in the Orphan Boy and Marget Ann mines and Tech well by pressure transducers.

In addition to the four groundwater-monitoring sites, a seep (spring), referred to as the Green Seep, is monitored for the quantity of water flowing from it. Vegetative growth has completely obscured this monitoring site. Plans are being developed for site modifications that will allow reestablishment of the monitoring station.

Water-Quality Sampling

The monthly water sample was collected from the HSB drainage. Copies of results through November 2018 (sample collected 11/28/18) are attached.

MBMG Monthly Report
 Butte Mine Flooding
 Contract No. 415008--TO-2
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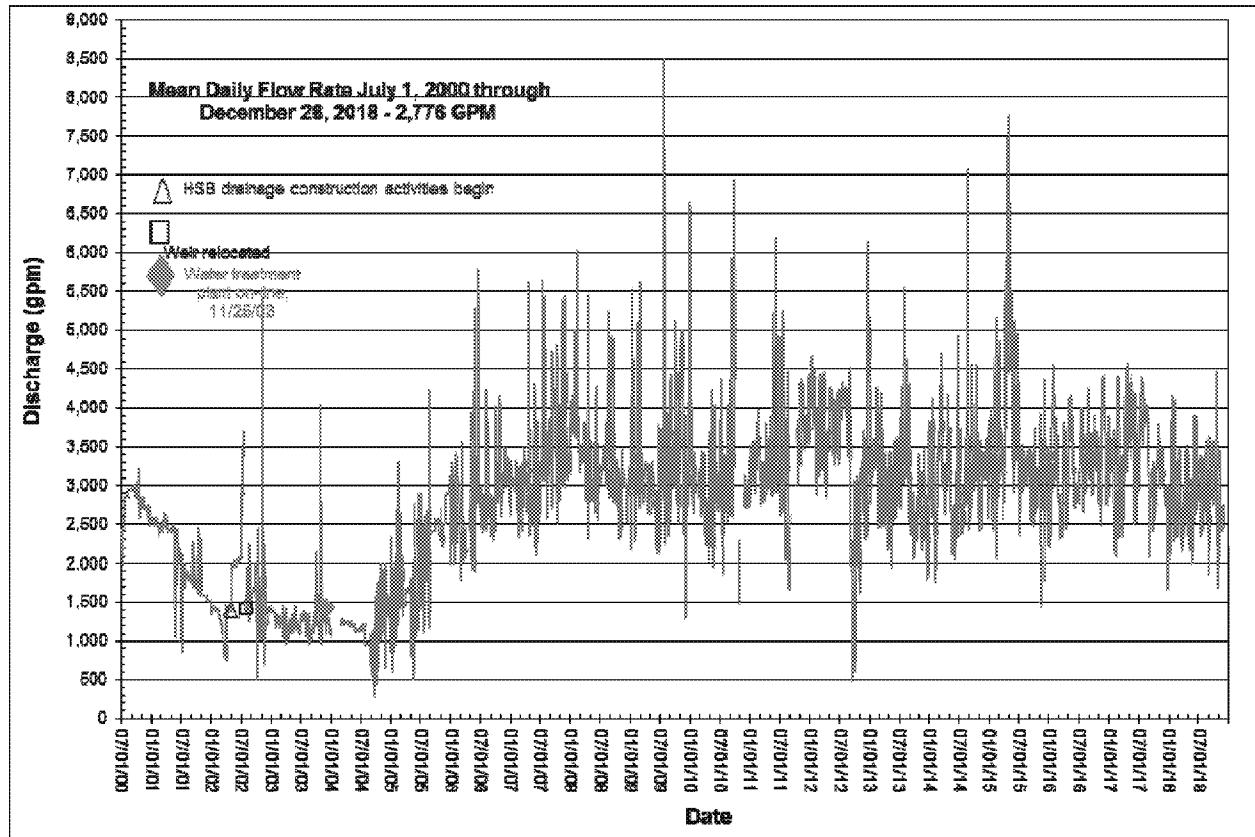
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Attachment 1. Horseshoe Bend Drainage Monthly Flow Statistics

| Monthly Statistics | Jan-17 | Feb-17 | Mar-17 | Apr-17 | May-17 | Jun-17 | July-17 | Aug-17 | Sept-17 | Oct-17 | Nov-17 | Dec-17 |
|------------------------|--------|--------|--------|--------|--------|--------|---------|--------|---------|--------|--------|--------|
| Mean Flow (gpm) | 3472 | 3093 | 2756 | 3627 | 3896 | 3258 | 3821 | 3869 | 2867 | 2963 | 3260 | 2771 |
| Min Flow (gpm) | 3153 | 2109 | 2327 | 3051 | 3344 | 2499 | 3362 | 3533 | 2106 | 2425 | 2963 | 1678 |
| Max Flow (gpm) | 3907 | 4404 | 3378 | 4567 | 4411 | 4185 | 4376 | 4323 | 3311 | 3466 | 3789 | 3177 |
| Total Flow (MG) | 150.0 | 129.2 | 119.1 | 146.2 | 190.7 | 136.0 | 154.1 | 189.4 | 119.7 | 140.8 | 131.4 | 119.7 |
| | | | | | | | | | | | | |
| Monthly Statistics | Jan-18 | Feb-18 | Mar-18 | Apr-18 | May-18 | Jun-18 | July-18 | Aug-18 | Sept-18 | Oct-18 | Nov-18 | Dec-18 |
| Mean Flow (gpm) | 2888 | 2706 | 2646 | 2890 | 2578 | 3052 | 3061 | 2877 | 2933 | 2814 | 2616 | 2908 |
| Min Flow (gpm) | 2141 | 2278 | 2166 | 2391 | 2008 | 2530 | 2351 | 2427 | 1864 | 1697 | 2100 | 2779 |
| Max Flow (gpm) | 4164 | 4093 | 3458 | 3502 | 3378 | 3903 | 3374 | 3585 | 3631 | 4466 | 3460 | 3240 |
| Total Flow (MG) | 120.6 | 128.6 | 102.9 | 120.7 | 129.9 | 123.0 | 149.9 | 120.1 | 118.3 | 141.8 | 105.5 | 125.6 |

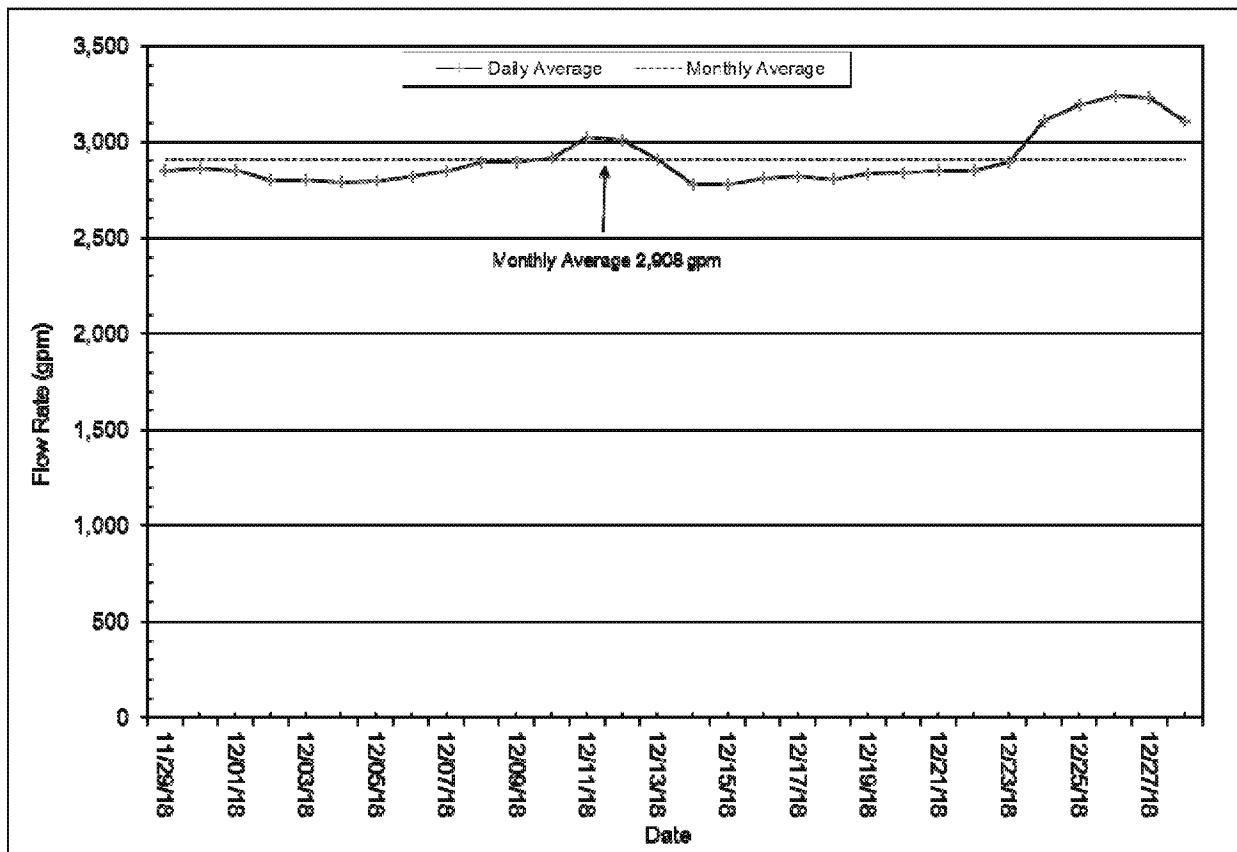
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Attachment 2. Horseshoe Bend Drainage Flow Graphs



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Butte Mine Flooding
Contract No. 415008--TO-2
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December 2018 Horseshoe Bend Flow Rate.

Montana Bureau of Mines and Geology
 East Camp Alluvial Water-Level Elevations
 Site Name/Monthly Elevations

| DATE MO/YR | LP-01 | ELEV. | MO. DIFF | LP-02 | ELEV. | MO. DIFF | LP-03 | ELEV. | MO. DIFF | LP-04 | ELEV. | MO. DIFF | LP-05 | ELEV. | MO. DIFF | LP-06 | ELEV. | MO. DIFF |
|----------------------|----------|-------------|----------|----------|-----------------|----------|-----------|-----------|----------|-------------|-------------|----------|----------|--------------|----------|----------|----------------|----------|
| | SWL (FT) | (FT) | | SWL (FT) | (FT) | | SWL (FT) | (FT) | | SWL (FT) | (FT) | | SWL (FT) | (FT) | | SWL (FT) | (FT) | |
| | TD-200' | SI-177-197' | | TD-162' | SI-129.5-159.5' | | TD-55.20' | SI-32-52' | | TD-150' | SI-128-148' | | TD-231' | SI-189-229' | | TD-115' | SI-92.2-112.2' | |
| (MP Elev.) | | 5619.70 | | | 5624.70 | | | 5566.00 | | | 5585.50 | | | 5583.90 | | | 5713.18 | |
| Jan-16 | 148.69 | 5471.01 | -0.01 | 150.00 | 5474.70 | 0.03 | P&A | | 111.99 | 5473.51 | 0.14 | 133.75 | 5450.15 | -0.25 | P&A | | | |
| Feb-16 | 148.70 | 5471.00 | -0.01 | 150.02 | 5474.68 | -0.02 | P&A | | 111.97 | 5473.53 | 0.02 | 133.88 | 5450.02 | -0.13 | P&A | | | |
| Mar-16 | 149.00 | 5470.70 | -0.30 | 150.29 | 5474.41 | -0.27 | P&A | | 111.68 | 5473.82 | 0.29 | 134.29 | 5449.61 | -0.41 | P&A | | | |
| Apr-16 | 148.70 | 5471.00 | 0.30 | 149.92 | 5474.78 | 0.37 | P&A | | 111.41 | 5474.09 | 0.27 | 133.53 | 5450.37 | 0.76 | P&A | | | |
| May-16 | 147.79 | 5471.91 | 0.91 | 148.93 | 5475.77 | 0.99 | P&A | | 111.15 | 5474.35 | 0.26 | 133.31 | 5450.59 | 0.22 | P&A | | | |
| Jun-16 | 147.88 | 5471.82 | -0.09 | 148.99 | 5475.71 | -0.06 | P&A | | 111.20 | 5474.30 | -0.05 | 133.55 | 5450.35 | -0.24 | P&A | | | |
| Jul-16 | 147.81 | 5471.89 | 0.07 | 149.01 | 5475.69 | -0.02 | P&A | | 111.11 | 5474.39 | 0.09 | 133.52 | 5450.38 | 0.03 | P&A | | | |
| Aug-16 | 147.38 | 5472.32 | 0.43 | 148.54 | 5476.16 | 0.47 | P&A | | 110.95 | 5474.55 | 0.16 | 133.43 | 5450.47 | 0.09 | P&A | | | |
| Sep-16 | 147.39 | 5472.31 | -0.01 | 148.61 | 5476.09 | -0.07 | P&A | | 111.05 | 5474.45 | -0.10 | 133.62 | 5450.28 | -0.19 | P&A | | | |
| Oct-16 | 147.17 | 5472.53 | 0.22 | 148.61 | 5476.09 | 0.00 | P&A | | 111.09 | 5474.41 | -0.04 | 133.60 | 5450.30 | 0.02 | P&A | | | |
| Nov-16 | 146.67 | 5473.03 | 0.50 | 147.98 | 5476.72 | 0.63 | P&A | | 110.81 | 5474.69 | 0.28 | 133.28 | 5450.62 | 0.32 | P&A | | | |
| Dec-16 | 146.73 | 5472.97 | -0.06 | 148.07 | 5476.63 | -0.09 | P&A | | 111.00 | 5474.50 | -0.19 | 133.62 | 5450.28 | -0.34 | P&A | | | |
| Yearly Change | | 1.95 | | | 1.96 | | | | | 1.13 | | | | -0.12 | | | | |
| Jan-17 | 146.93 | 5472.77 | -0.20 | 148.44 | 5476.26 | -0.37 | P&A | | 111.27 | 5474.23 | -0.27 | 133.86 | 5450.04 | -0.24 | P&A | | | |
| Feb-17 | 145.88 | 5473.82 | 1.05 | 147.27 | 5477.43 | 1.17 | P&A | | 110.58 | 5474.92 | 0.69 | 132.31 | 5451.59 | 1.55 | P&A | | | |
| Mar-17 | 146.23 | 5473.47 | -0.35 | 147.74 | 5476.96 | -0.47 | P&A | | 110.99 | 5474.51 | -0.41 | 132.75 | 5451.15 | -0.44 | P&A | | | |
| Apr-17 | 145.70 | 5474.00 | 0.53 | 147.17 | 5477.53 | 0.57 | P&A | | 110.68 | 5474.82 | 0.31 | 132.41 | 5451.49 | 0.34 | P&A | | | |
| May-17 | 145.79 | 5473.91 | -0.09 | 147.37 | 5477.33 | -0.20 | P&A | | 110.96 | 5474.54 | -0.28 | 132.63 | 5451.27 | -0.22 | P&A | | | |
| Jun-17 | 145.46 | 5474.24 | 0.33 | 147.03 | 5477.67 | 0.34 | P&A | | 110.99 | 5474.51 | -0.03 | 132.55 | 5451.35 | 0.08 | P&A | | | |
| Jul-17 | 145.37 | 5474.33 | 0.09 | 147.28 | 5477.42 | -0.25 | P&A | | 110.97 | 5474.53 | 0.02 | 132.61 | 5451.29 | -0.06 | P&A | | | |
| Aug-17 | 145.11 | 5474.59 | 0.26 | 147.04 | 5477.66 | 0.24 | P&A | | 110.82 | 5474.68 | 0.15 | 132.63 | 5451.27 | -0.02 | P&A | | | |
| Sep-17 | 145.21 | 5474.49 | -0.10 | 147.23 | 5477.47 | -0.19 | P&A | | 110.92 | 5474.58 | -0.10 | 132.85 | 5451.05 | -0.22 | P&A | | | |
| Oct-17 | 144.62 | 5475.08 | 0.59 | 146.57 | 5478.13 | 0.66 | P&A | | 110.40 | 5475.10 | 0.52 | 132.43 | 5451.47 | 0.42 | P&A | | | |
| Nov-17 | 144.83 | 5474.87 | -0.21 | 146.88 | 5477.82 | -0.31 | P&A | | 110.59 | 5474.91 | -0.19 | 132.64 | 5451.26 | -0.21 | P&A | | | |
| Dec-17 | 144.53 | 5475.17 | 0.30 | 146.51 | 5478.19 | 0.37 | P&A | | 110.32 | 5475.18 | 0.27 | 132.54 | 5451.36 | 0.10 | P&A | | | |
| Yearly Change | | 2.20 | | | 1.56 | | | | | 0.68 | | | | 1.08 | | | | |
| Jan-18 | 144.39 | 5475.31 | 0.14 | 146.41 | 5478.29 | 0.10 | P&A | | 110.37 | 5475.13 | -0.05 | 132.74 | 5451.16 | -0.20 | P&A | | | |
| Feb-18 | 144.31 | 5475.39 | 0.08 | 146.34 | 5478.36 | 0.07 | P&A | | 110.08 | 5475.42 | 0.29 | 132.38 | 5451.52 | 0.36 | P&A | | | |
| Mar-18 | 144.43 | 5475.27 | -0.12 | 146.50 | 5478.20 | -0.16 | P&A | | 110.14 | 5475.36 | -0.06 | 132.56 | 5451.34 | -0.18 | P&A | | | |
| Apr-18 | 144.37 | 5475.33 | 0.06 | 146.35 | 5478.35 | 0.15 | P&A | | 110.05 | 5475.45 | 0.09 | 132.06 | 5451.84 | 0.50 | P&A | | | |
| May-18 | 144.02 | 5475.68 | 0.35 | 145.99 | 5478.71 | 0.36 | P&A | | 109.91 | 5475.59 | 0.14 | 132.27 | 5451.63 | -0.21 | P&A | | | |
| Jun-18 | 144.06 | 5475.64 | -0.04 | 146.09 | 5478.61 | -0.10 | P&A | | 110.03 | 5475.47 | -0.12 | 132.37 | 5451.53 | -0.10 | P&A | | | |
| Jul-18 | 144.15 | 5475.55 | -0.09 | 146.15 | 5478.55 | -0.06 | P&A | | 109.87 | 5475.63 | 0.16 | 132.37 | 5451.53 | 0.00 | P&A | | | |
| Aug-18 | 144.02 | 5475.68 | 0.13 | 146.04 | 5478.66 | 0.11 | P&A | | 109.68 | 5475.82 | 0.19 | 132.20 | 5451.70 | 0.17 | P&A | | | |
| Sep-18 | 144.11 | 5475.59 | -0.09 | 146.11 | 5478.59 | -0.07 | P&A | | 109.66 | 5475.84 | 0.02 | 132.37 | 5451.53 | -0.17 | P&A | | | |
| Oct-18 | 144.04 | 5475.66 | 0.07 | 146.01 | 5478.69 | 0.10 | P&A | | 109.53 | 5475.97 | 0.13 | 132.36 | 5451.54 | 0.01 | P&A | | | |
| Nov-18 | 143.74 | 5475.96 | 0.30 | 145.65 | 5479.05 | 0.36 | P&A | | 109.28 | 5476.22 | 0.25 | 132.04 | 5451.86 | 0.32 | P&A | | | |
| Dec-18 | 144.17 | 5475.53 | -0.43 | 146.11 | 5478.59 | -0.46 | P&A | | 109.54 | 5475.96 | -0.26 | 132.41 | 5451.49 | -0.37 | P&A | | | |
| Yearly Change | | 0.36 | | | 0.40 | | | | | 0.78 | | | | 0.13 | | | | |

Montana Bureau of Mines and Geology
 East Camp Alluvial Water-Level Elevations
 Site Name/Monthly Elevations

| DATE MO/YR (MP Elev.) | LP-07 | ELEV. | MO. DIFF | LP-08 | ELEV. | MO. DIFF | LP-09 | ELEV. | MO. DIFF | LP-10 | ELEV. | MO. DIFF | LP-11 | ELEV. | MO. DIFF | LP-12 | ELEV. | MO. DIFF |
|-----------------------------|----------------------|---------|--------------|-----------|----------|--------------|----------|-------------|--------------|-------------|----------|--------------|-----------------------|---------|----------|-------|----------|--------------|
| | SWL (FT) | (FT) | SWL (FT) | (FT) | SWL (FT) | (FT) | SWL (FT) | (FT) | SWL (FT) | (FT) | SWL (FT) | (FT) | SWL (FT) | (FT) | SWL (FT) | (FT) | SWL (FT) | (FT) |
| | TD-101.50' SI-93-98' | | TD-100' | SI-81-96' | TD-107' | SI-82-102' | TD-169' | SI-132-162' | TD-284' | SI-247-277' | TD-133' | SI-110-130' | | | | | | |
| | | 5617.00 | | | 5577.29 | | | 5561.52 | | | 5609.12 | | | 5609.61 | | | 5543.82 | |
| Jan-16 | 98.35 | 5518.65 | -0.25 | 94.13 | 5483.16 | 0.32 | 86.92 | 5474.60 | -0.88 | 131.00 | 5478.12 | -0.55 | Plugged and abandoned | | | 81.26 | 5462.56 | -0.37 |
| Feb-16 | 98.34 | 5518.66 | -0.13 | 94.15 | 5483.14 | -0.02 | 86.90 | 5474.62 | 0.02 | 131.27 | 5477.85 | -0.27 | Plugged and abandoned | | | 81.55 | 5462.27 | -0.29 |
| Mar-16 | 98.96 | 5518.04 | -0.41 | 94.58 | 5482.71 | -0.43 | 87.68 | 5473.84 | -0.78 | 131.37 | 5477.75 | -0.10 | Plugged and abandoned | | | 81.49 | 5462.33 | 0.06 |
| Apr-16 | 98.37 | 5518.63 | 0.76 | 93.75 | 5483.54 | 0.83 | 86.85 | 5474.67 | 0.83 | 132.08 | 5477.04 | -0.71 | Plugged and abandoned | | | 81.39 | 5462.43 | 0.10 |
| May-16 | 98.34 | 5518.66 | 0.22 | 93.59 | 5483.70 | 0.16 | 86.77 | 5474.75 | 0.08 | 131.10 | 5478.02 | 0.98 | Plugged and abandoned | | | 81.14 | 5462.68 | 0.25 |
| Jun-16 | 98.36 | 5518.64 | -0.24 | 93.58 | 5483.71 | 0.01 | 86.81 | 5474.71 | -0.04 | 131.73 | 5477.39 | -0.63 | Plugged and abandoned | | | 81.21 | 5462.61 | -0.07 |
| Jul-16 | 98.28 | 5518.72 | 0.03 | 93.66 | 5483.63 | -0.08 | 86.91 | 5474.61 | -0.10 | 131.90 | 5477.22 | -0.17 | Plugged and abandoned | | | 81.05 | 5462.77 | 0.16 |
| Aug-16 | 98.30 | 5518.70 | 0.09 | 93.45 | 5483.84 | 0.21 | 86.86 | 5474.66 | 0.05 | 131.81 | 5477.31 | 0.09 | Plugged and abandoned | | | 80.88 | 5462.94 | 0.17 |
| Sep-16 | 98.40 | 5518.60 | -0.19 | 93.61 | 5483.68 | -0.16 | 87.03 | 5474.49 | -0.17 | 132.03 | 5477.09 | -0.22 | Plugged and abandoned | | | 80.66 | 5463.16 | 0.22 |
| Oct-16 | 98.34 | 5518.66 | 0.02 | 93.72 | 5483.57 | -0.11 | 87.32 | 5474.20 | -0.29 | 132.08 | 5477.04 | -0.05 | Plugged and abandoned | | | 80.69 | 5463.13 | -0.03 |
| Nov-16 | 98.25 | 5518.75 | 0.32 | 93.77 | 5483.52 | -0.05 | 87.05 | 5474.47 | 0.27 | 131.98 | 5477.14 | 0.10 | Plugged and abandoned | | | 80.56 | 5463.26 | 0.13 |
| Dec-16 | 98.21 | 5518.79 | -0.34 | 93.84 | 5483.45 | -0.07 | 87.18 | 5474.34 | -0.13 | 132.17 | 5476.95 | -0.19 | Plugged and abandoned | | | 80.54 | 5463.28 | 0.02 |
| Yearly Change | | | -0.12 | | | 0.61 | | | -1.14 | | | -1.72 | | | | | | 0.35 |
| Jan-17 | 98.23 | 5518.77 | -0.24 | 94.21 | 5483.08 | -0.37 | 86.82 | 5474.70 | 0.36 | 132.37 | 5476.75 | -0.20 | Plugged and abandoned | | | 80.50 | 5463.32 | 0.04 |
| Feb-17 | 98.23 | 5518.77 | 1.55 | 93.99 | 5483.30 | 0.22 | 86.68 | 5474.84 | 0.14 | 132.14 | 5476.98 | 0.23 | Plugged and abandoned | | | 80.51 | 5463.31 | -0.01 |
| Mar-17 | 98.22 | 5518.78 | -0.44 | 94.41 | 5482.88 | -0.42 | 87.26 | 5474.26 | -0.58 | 132.47 | 5476.65 | -0.33 | Plugged and abandoned | | | 80.90 | 5462.92 | -0.39 |
| Apr-17 | 98.25 | 5518.75 | 0.34 | 94.28 | 5483.01 | 0.13 | 86.83 | 5474.69 | 0.43 | 132.39 | 5476.73 | 0.08 | Plugged and abandoned | | | 80.81 | 5463.01 | 0.09 |
| May-17 | 98.24 | 5518.76 | -0.22 | 94.76 | 5482.53 | -0.48 | 86.99 | 5474.53 | -0.16 | 132.61 | 5476.51 | -0.22 | Plugged and abandoned | | | 81.11 | 5462.71 | -0.30 |
| Jun-17 | 98.25 | 5518.75 | 0.08 | 94.82 | 5482.47 | -0.06 | 86.95 | 5474.57 | 0.04 | 132.72 | 5476.40 | -0.11 | Plugged and abandoned | | | 81.36 | 5462.46 | -0.25 |
| Jul-17 | 98.25 | 5518.75 | -0.06 | 94.81 | 5482.48 | 0.01 | 86.65 | 5474.87 | 0.30 | 132.68 | 5476.44 | 0.04 | Plugged and abandoned | | | 81.58 | 5462.24 | -0.22 |
| Aug-17 | 98.29 | 5518.71 | -0.02 | 94.83 | 5482.46 | -0.02 | 86.23 | 5475.29 | 0.42 | 132.84 | 5476.28 | -0.16 | Plugged and abandoned | | | 81.62 | 5462.20 | -0.04 |
| Sep-17 | 98.27 | 5518.73 | -0.22 | 94.75 | 5482.54 | 0.08 | 86.48 | 5475.04 | -0.25 | 132.74 | 5476.38 | 0.10 | Plugged and abandoned | | | 81.69 | 5462.13 | -0.07 |
| Oct-17 | 98.31 | 5518.69 | 0.42 | 94.26 | 5483.03 | 0.49 | 85.95 | 5475.57 | 0.53 | 132.94 | 5476.18 | -0.20 | Plugged and abandoned | | | 81.45 | 5462.37 | 0.24 |
| Nov-17 | 98.29 | 5518.71 | -0.21 | 94.37 | 5482.92 | -0.11 | 86.64 | 5474.88 | -0.69 | 132.88 | 5476.24 | 0.06 | Plugged and abandoned | | | 81.80 | 5462.02 | -0.35 |
| Dec-17 | 98.29 | 5518.71 | 0.10 | 94.09 | 5483.20 | 0.28 | 86.53 | 5474.99 | 0.11 | 132.83 | 5476.29 | 0.05 | Plugged and abandoned | | | 81.79 | 5462.03 | 0.01 |
| Yearly Change | | | 1.08 | | | -0.25 | | | 0.65 | | | -0.66 | | | | | | -1.25 |
| Jan-18 | 98.21 | 5518.79 | -0.20 | 93.86 | 5483.43 | 0.23 | 86.75 | 5474.77 | -0.22 | 132.99 | 5476.13 | -0.16 | Plugged and abandoned | | | 81.98 | 5461.84 | -0.19 |
| Feb-18 | 98.22 | 5518.78 | 0.36 | 93.67 | 5483.62 | 0.19 | 86.78 | 5474.74 | -0.03 | 132.90 | 5476.22 | 0.09 | Plugged and abandoned | | | 82.32 | 5461.50 | -0.34 |
| Mar-18 | 98.21 | 5518.79 | -0.18 | 93.59 | 5483.70 | 0.08 | 86.97 | 5474.55 | -0.19 | 132.99 | 5476.13 | -0.09 | Plugged and abandoned | | | 82.53 | 5461.29 | -0.21 |
| Apr-18 | 98.21 | 5518.79 | 0.50 | 93.44 | 5483.85 | 0.15 | 86.77 | 5474.75 | 0.20 | 133.30 | 5475.82 | -0.31 | Plugged and abandoned | | | 82.87 | 5460.95 | -0.34 |
| May-18 | 98.21 | 5518.79 | -0.21 | 93.58 | 5483.71 | -0.14 | 86.55 | 5474.97 | 0.22 | 133.14 | 5475.98 | 0.16 | Plugged and abandoned | | | 83.06 | 5460.76 | -0.19 |
| Jun-18 | 98.22 | 5518.78 | -0.10 | 93.76 | 5483.53 | -0.18 | 86.58 | 5474.94 | -0.03 | 133.09 | 5476.03 | 0.05 | Plugged and abandoned | | | 83.29 | 5460.53 | -0.23 |
| Jul-18 | 98.21 | 5518.79 | 0.00 | 93.43 | 5483.86 | 0.33 | 86.57 | 5474.95 | 0.01 | 133.20 | 5475.92 | -0.11 | Plugged and abandoned | | | 83.56 | 5460.26 | -0.27 |
| Aug-18 | 98.22 | 5518.78 | 0.17 | 93.19 | 5484.10 | 0.24 | 86.39 | 5475.13 | 0.18 | 133.10 | 5476.02 | 0.10 | Plugged and abandoned | | | 83.73 | 5460.09 | -0.17 |
| Sep-18 | 98.25 | 5518.75 | -0.17 | 93.09 | 5484.20 | 0.10 | 86.49 | 5475.03 | -0.10 | 133.02 | 5476.10 | 0.08 | Plugged and abandoned | | | 83.73 | 5460.09 | 0.00 |
| Oct-18 | 98.27 | 5518.73 | 0.01 | 92.96 | 5484.33 | 0.13 | 86.74 | 5474.78 | -0.25 | 133.11 | 5476.01 | -0.09 | Plugged and abandoned | | | 83.82 | 5460.00 | -0.09 |
| Nov-18 | 98.22 | 5518.78 | 0.32 | 92.85 | 5484.44 | 0.11 | 86.74 | 5474.78 | 0.00 | 132.95 | 5476.17 | 0.16 | Plugged and abandoned | | | 83.92 | 5459.90 | -0.10 |
| Dec-18 | 98.23 | 5518.77 | -0.37 | 92.95 | 5484.34 | -0.10 | 87.32 | 5474.20 | -0.58 | 133.21 | 5475.91 | -0.26 | Plugged and abandoned | | | 84.16 | 5459.66 | -0.24 |
| Yearly Change | | | 0.13 | | | 1.14 | | | -0.79 | | | -0.38 | | | | | | -2.37 |

Montana Bureau of Mines and Geology
 East Camp Alluvial Water-Level Elevations
 Site Name/Monthly Elevations

| DATE MO/YR (MP Elev.) | LP-13 SWL (FT) | ELEV. (FT) | MO. DIFF SI-219-239' | LP-14 SWL (FT) | ELEV. (FT) | MO. DIFF SI-85-105' | LP-15 SWL (FT) | ELEV. (FT) | MO. DIFF SI-218.3-238.3' | LP-16 SWL (FT) | ELEV. (FT) | MO. DIFF SI-103.4-123.4' | *LP-17 SWL (FT) | ELEV. (FT) | MO. DIFF SI-201-226' | LP-17R SWL (FT) | ELEV. (FT) | MO. DIFF SI-17-221' |
|-----------------------------|-------------------|---------------|-------------------------|-------------------|---------------|------------------------|-------------------|---------------|-----------------------------|-------------------|---------------|-----------------------------|--------------------|---------------|-------------------------|--------------------|---------------|------------------------|
| | TD-242' | 5543.05 | | TD-108.5' | 5525.68 | SI-85-105' | TD-242.5' | 5520.23 | SI-218.3-238.3' | TD-126' | 5519.88 | SI-103.4-123.4' | TD-222' | 5623.34 | SI-201-226' | TD-222' | 5621.54 | SI-17-221' |
| Jan-16 | 89.55 | 5453.50 | -0.37 | 65.44 | 5460.92 | -0.53 | 207.99 | 5312.24 | -3.11 | 96.98 | 5422.90 | -0.41 | P&A | | | 176.77 | 5442.32 | -0.36 |
| Feb-16 | 89.53 | 5453.52 | 0.02 | 65.42 | 5460.94 | 0.02 | 211.03 | 5309.20 | -3.04 | 97.23 | 5422.65 | -0.25 | P&A | | | 177.23 | 5441.86 | -0.46 |
| Mar-16 | 89.76 | 5453.29 | -0.23 | 65.22 | 5461.14 | 0.20 | 209.92 | 5310.31 | 1.11 | 97.40 | 5422.48 | -0.17 | P&A | | | 177.47 | 5441.62 | -0.24 |
| Apr-16 | 89.76 | 5453.29 | 0.00 | 65.03 | 5461.33 | 0.19 | 211.48 | 5308.75 | -1.56 | 97.49 | 5422.39 | -0.09 | P&A | | | 177.62 | 5441.47 | -0.15 |
| May-16 | 89.61 | 5453.44 | 0.15 | 64.72 | 5461.64 | 0.31 | 215.00 | 5305.23 | -3.52 | 97.47 | 5422.41 | 0.02 | P&A | | | 177.51 | 5441.58 | 0.11 |
| Jun-16 | 89.75 | 5453.30 | -0.14 | 64.73 | 5461.63 | -0.01 | 215.00 | 5305.23 | 0.00 | 97.49 | 5422.39 | -0.02 | P&A | | | 177.66 | 5441.43 | -0.15 |
| Jul-16 | 88.46 | 5454.59 | 1.29 | 64.51 | 5461.85 | 0.22 | 201.72 | 5318.51 | 13.28 | 96.07 | 5423.81 | 1.42 | P&A | | | 177.17 | 5441.92 | 0.49 |
| Aug-16 | 89.40 | 5453.65 | -0.94 | 64.30 | 5462.06 | 0.21 | NR | | | 96.82 | 5423.06 | -0.75 | P&A | | | 177.27 | 5441.82 | -0.10 |
| Sep-16 | 89.18 | 5453.87 | 0.22 | 63.94 | 5462.42 | 0.36 | NR | | | 96.77 | 5423.11 | 0.05 | P&A | | | 177.33 | 5441.76 | -0.06 |
| Oct-16 | 88.97 | 5454.08 | 0.21 | 63.57 | 5462.79 | 0.37 | 205.87 | 5314.36 | -4.15 | 96.50 | 5423.38 | 0.27 | P&A | | | 177.23 | 5441.86 | 0.10 |
| Nov-16 | 88.89 | 5454.16 | 0.08 | 63.48 | 5462.88 | 0.09 | NR | | | 96.58 | 5423.30 | -0.08 | P&A | | | 176.95 | 5442.14 | 0.28 |
| Dec-16 | 88.83 | 5454.22 | 0.06 | 63.19 | 5463.17 | 0.29 | NR | | | 96.58 | 5423.30 | 0.00 | P&A | | | 176.74 | 5442.35 | 0.21 |
| Yearly Change | | 0.35 | | | 1.72 | | | | -0.99 | | | -0.01 | | | 0.00 | | | -0.33 |
| Jan-17 | 88.86 | 5454.19 | -0.03 | 63.48 | 5462.88 | -0.29 | NR | | | 96.53 | 5423.35 | 0.05 | P&A | | | 176.65 | 5442.44 | 0.09 |
| Feb-17 | 88.84 | 5454.21 | 0.02 | 63.14 | 5463.22 | 0.34 | NR | | | 96.28 | 5423.60 | 0.25 | P&A | | | 176.68 | 5442.41 | -0.03 |
| Mar-17 | 88.93 | 5454.12 | -0.09 | 63.59 | 5462.77 | -0.45 | NR | | | 96.12 | 5423.76 | 0.16 | P&A | | | 176.67 | 5442.42 | 0.01 |
| Apr-17 | 88.99 | 5454.06 | -0.06 | 63.46 | 5462.90 | 0.13 | NR | | | 96.17 | 5423.71 | -0.05 | P&A | | | 176.64 | 5442.45 | 0.03 |
| May-17 | 89.07 | 5453.98 | -0.08 | 63.62 | 5462.74 | -0.16 | 211.95 | 5308.28 | -6.08 | 96.07 | 5423.81 | 0.10 | P&A | | | 176.85 | 5442.24 | -0.21 |
| Jun-17 | 89.03 | 5454.02 | 0.04 | 63.85 | 5462.51 | -0.23 | NR | | | 96.09 | 5423.79 | -0.02 | P&A | | | 176.93 | 5442.16 | -0.08 |
| Jul-17 | 89.07 | 5453.98 | -0.04 | 64.20 | 5462.16 | -0.35 | NR | | | 95.97 | 5423.91 | 0.12 | P&A | | | 176.81 | 5442.28 | 0.12 |
| Aug-17 | 88.98 | 5454.07 | 0.09 | 64.11 | 5462.25 | 0.09 | NR | | | 95.87 | 5424.01 | 0.10 | P&A | | | 176.76 | 5442.33 | 0.05 |
| Sep-17 | 88.97 | 5454.08 | 0.01 | 64.09 | 5462.27 | 0.02 | NR | | | 95.81 | 5424.07 | 0.06 | P&A | | | 176.76 | 5442.33 | 0.00 |
| Oct-17 | 88.69 | 5454.36 | 0.28 | 63.94 | 5462.42 | 0.15 | NR | | | 95.51 | 5424.37 | 0.30 | P&A | | | 176.43 | 5442.66 | 0.33 |
| Nov-17 | 88.78 | 5454.27 | -0.09 | 64.34 | 5462.02 | -0.40 | NR | | | 95.62 | 5424.26 | -0.11 | P&A | | | 176.73 | 5442.36 | -0.30 |
| Dec-17 | 88.56 | 5454.49 | 0.22 | 64.25 | 5462.11 | 0.09 | 176.60 | 5343.63 | 35.35 | 95.22 | 5424.66 | 0.40 | P&A | | | 176.50 | 5442.59 | 0.23 |
| Yearly Change | | 0.27 | | | -1.06 | | | 29.27 | | | 1.36 | | | 0.00 | | | 0.24 | |
| Jan-18 | 88.84 | 5454.21 | -0.28 | 64.64 | 5461.72 | -0.39 | 177.93 | 5342.30 | -1.33 | 95.35 | 5424.53 | -0.13 | P&A | | | 176.55 | 5442.54 | -0.05 |
| Feb-18 | 89.01 | 5454.04 | -0.17 | 64.98 | 5461.38 | -0.34 | 178.19 | 5342.04 | -0.26 | 95.46 | 5424.42 | -0.11 | P&A | | | 176.76 | 5442.33 | -0.21 |
| Mar-18 | 89.05 | 5454.00 | -0.04 | 65.29 | 5461.07 | -0.31 | 177.53 | 5342.70 | 0.66 | 95.11 | 5424.77 | 0.35 | P&A | | | 176.73 | 5442.36 | 0.03 |
| Apr-18 | 89.31 | 5453.74 | -0.26 | 65.47 | 5460.89 | -0.18 | 178.04 | 5342.19 | -0.51 | 95.33 | 5424.55 | -0.22 | P&A | | | 176.97 | 5442.12 | -0.24 |
| May-18 | 89.39 | 5453.66 | -0.08 | 65.82 | 5460.54 | -0.35 | 179.18 | 5341.05 | -1.14 | 95.07 | 5424.81 | 0.26 | P&A | | | 176.93 | 5442.16 | 0.04 |
| Jun-18 | 89.20 | 5453.85 | 0.19 | 65.81 | 5460.55 | 0.01 | 173.58 | 5346.65 | 5.60 | 94.11 | 5425.77 | 0.96 | P&A | | | 176.83 | 5442.26 | 0.10 |
| Jul-18 | 89.67 | 5453.38 | -0.47 | 66.20 | 5460.16 | -0.39 | 177.35 | 5342.88 | -3.77 | 94.97 | 5424.91 | -0.86 | P&A | | | 177.07 | 5442.02 | -0.24 |
| Aug-18 | 89.59 | 5453.46 | 0.08 | 66.32 | 5460.04 | -0.12 | 177.49 | 5342.74 | -0.14 | 94.96 | 5424.92 | 0.01 | P&A | | | 177.02 | 5442.07 | 0.05 |
| Sep-18 | 89.40 | 5453.65 | 0.19 | 66.32 | 5460.04 | 0.00 | 177.60 | 5342.63 | -0.11 | 94.84 | 5425.04 | 0.12 | P&A | | | 177.05 | 5442.04 | -0.03 |
| Oct-18 | 89.33 | 5453.72 | 0.07 | 66.28 | 5460.08 | 0.04 | 178.35 | 5341.88 | -0.75 | 94.58 | 5425.30 | 0.26 | P&A | | | 177.00 | 5442.09 | 0.05 |
| Nov-18 | 89.35 | 5453.70 | -0.02 | 66.43 | 5459.93 | -0.15 | 178.21 | 5342.02 | 0.14 | 94.65 | 5425.23 | -0.07 | P&A | | | 177.10 | 5441.99 | -0.10 |
| Dec-18 | 89.59 | 5453.46 | -0.24 | 66.71 | 5459.65 | -0.28 | 178.09 | 5342.14 | 0.12 | 94.79 | 5425.09 | -0.14 | P&A | | | 177.23 | 5441.86 | -0.13 |
| Yearly Change | | -1.03 | | | -2.46 | | | -1.49 | | | 0.43 | | | 0.00 | | | -0.73 | |

Montana Bureau of Mines and Geology

1997 Alluvial Wells - Periodic Water-Level Measurements

Montana Resources, Butte, MT

| GWIC ID | 166372 | | | | 166373 | | | | 166374 | | | | 166375 | | | |
|--------------|--------|------------|------------|--------|-----------|------------|--------|-----------|------------|--------|-----------|------------|--------|-----|------------|--------|
| | 97-1 | | 97-2 | | 97-3 | | 97-4 | | | | | | | | | |
| | Date | SWL | Elevation* | Change | SWL | Elevation* | Change | SWL | Elevation* | Change | SWL | Elevation* | Change | SWL | Elevation* | Change |
| | | MP-ToS(ft) | 5561.35 | (ft) | MP-CT(ft) | 5577.42 | (ft) | MP-CT(ft) | 5591.18 | (ft) | MP-CT(ft) | 5576.80 | (ft) | | | |
| 01/27/17 | 43.79 | 5517.56 | -0.09 | 22.41 | 5555.01 | 0.06 | 7.21 | 5583.97 | -0.10 | 24.91 | 5551.89 | 0.63 | | | | |
| 02/28/17 | 43.35 | 5518.00 | 0.44 | 21.64 | 5555.78 | 0.77 | 6.36 | 5584.82 | 0.85 | 25.19 | 5551.61 | -0.28 | | | | |
| 03/28/17 | 43.61 | 5517.74 | -0.26 | 21.99 | 5555.43 | -0.35 | 5.89 | 5585.29 | 0.47 | 25.51 | 5551.29 | -0.32 | | | | |
| 04/26/17 | 42.88 | 5518.47 | 0.73 | 21.07 | 5556.35 | 0.92 | 5.44 | 5585.74 | 0.45 | 25.25 | 5551.55 | 0.26 | | | | |
| 06/02/17 | 42.94 | 5518.41 | -0.06 | 21.68 | 5555.74 | -0.61 | 5.75 | 5585.43 | -0.31 | 25.02 | 5551.78 | 0.23 | | | | |
| 06/29/17 | 43.02 | 5518.33 | -0.08 | 21.91 | 5555.51 | -0.23 | 5.87 | 5585.31 | -0.12 | 24.80 | 5552.00 | 0.22 | | | | |
| 07/27/17 | 42.99 | 5518.36 | 0.03 | 21.91 | 5555.51 | 0.00 | 5.83 | 5585.35 | 0.04 | 24.90 | 5551.90 | -0.10 | | | | |
| 08/30/17 | 43.19 | 5518.16 | -0.20 | 22.14 | 5555.28 | -0.23 | 5.98 | 5585.20 | -0.15 | 25.27 | 5551.53 | -0.37 | | | | |
| 09/27/17 | 43.60 | 5517.75 | -0.41 | 22.32 | 5555.10 | -0.18 | 6.24 | 5584.94 | -0.26 | 25.78 | 5551.02 | -0.51 | | | | |
| 10/31/17 | 43.76 | 5517.59 | -0.16 | 22.07 | 5555.35 | 0.25 | 6.24 | 5584.94 | 0.00 | 25.63 | 5551.17 | 0.15 | | | | |
| 11/28/17 | 43.84 | 5517.51 | -0.08 | 22.04 | 5555.38 | 0.03 | 6.12 | 5585.06 | 0.12 | 25.51 | 5551.29 | 0.12 | | | | |
| 12/27/17 | 44.23 | 5517.12 | -0.39 | 22.46 | 5554.96 | -0.42 | 6.11 | 5585.07 | 0.01 | 24.86 | 5551.94 | 0.65 | | | | |
| 01/26/18 | 43.87 | 5517.48 | 0.36 | 21.96 | 5555.46 | 0.50 | 6.09 | 5585.09 | 0.02 | 23.71 | 5553.09 | 1.15 | | | | |
| 02/28/18 | 44.12 | 5517.23 | -0.25 | 22.23 | 5555.19 | -0.27 | 6.20 | 5584.98 | -0.11 | 24.86 | 5551.94 | -1.15 | | | | |
| 03/27/18 | 44.08 | 5517.27 | 0.04 | 22.31 | 5555.11 | -0.08 | 5.76 | 5585.42 | 0.44 | 24.64 | 5552.16 | 0.22 | | | | |
| 04/25/18 | 43.76 | 5517.59 | 0.32 | 21.84 | 5555.58 | 0.47 | 5.31 | 5585.87 | 0.45 | 24.39 | 5552.41 | 0.25 | | | | |
| 05/30/18 | 43.97 | 5517.38 | -0.21 | 22.10 | 5555.32 | -0.26 | 5.44 | 5585.74 | -0.13 | 23.71 | 5553.09 | 0.68 | | | | |
| 06/27/18 | 43.31 | 5518.04 | 0.66 | 21.76 | 5555.66 | 0.34 | 5.22 | 5585.96 | 0.22 | 24.64 | 5552.16 | -0.93 | | | | |
| 07/31/18 | 43.56 | 5517.79 | -0.25 | 22.32 | 5555.10 | -0.56 | 5.80 | 5585.38 | -0.58 | 25.44 | 5551.36 | -0.80 | | | | |
| 08/29/18 | 43.96 | 5517.39 | -0.40 | 22.63 | 5554.79 | -0.31 | 5.92 | 5585.26 | -0.12 | 25.83 | 5550.97 | -0.39 | | | | |
| 09/26/18 | 44.15 | 5517.20 | -0.19 | 22.79 | 5554.63 | -0.16 | 6.20 | 5584.98 | -0.28 | 27.61 | 5549.19 | -1.78 | | | | |
| 10/31/18 | 44.52 | 5516.83 | -0.37 | 22.99 | 5554.43 | -0.20 | 6.31 | 5584.87 | -0.11 | 28.27 | 5548.53 | -0.66 | | | | |
| 11/28/18 | 44.80 | 5516.55 | -0.28 | 23.01 | 5554.41 | -0.02 | 5.93 | 5585.25 | 0.38 | 28.09 | 5548.71 | 0.18 | | | | |
| 12/28/18 | 44.92 | 5516.43 | -0.12 | 22.83 | 5554.59 | 0.18 | 6.47 | 5584.71 | -0.54 | 28.41 | 5548.39 | -0.32 | | | | |
| Total Change | | 2.51 | | | 3.47 | | | 3.47 | | -0.21 | | | 0.50 | | | |

* Elevations are based on MR survey data using AMC datum, corrected to USGS.

Montana Bureau of Mines and Geology
Butte Mine Flooding Monitoring

| GWIC ID | DATE | 4597 | | | 4604 | | | 4611 | | |
|-------------------------|-------|---------|--------------|-------|-----------|--------------|---------|-----------|-------|--------------|
| | | AMC-5 | | SWL | AMC-6 | | SWL | AMC-8 | | SWL |
| | | SWL | Elevation | | Mo Change | SWL | | Elevation | | |
| | | | 5509.21 | | | | 5492.48 | 5489.62 | | 5524.03 |
| 01/29/15 | 70.56 | 5438.65 | 0.53 | 30.82 | 5458.80 | 0.02 | 59.27 | 5464.76 | -0.32 | |
| 02/24/15 | 70.28 | 5438.93 | 0.28 | 30.84 | 5458.78 | -0.02 | 59.29 | 5464.74 | -0.02 | |
| 03/30/15 | 70.09 | 5439.12 | 0.19 | 30.87 | 5458.75 | -0.03 | 59.63 | 5464.40 | -0.34 | |
| 04/30/15 | 70.07 | 5439.14 | 0.02 | 31.08 | 5458.54 | -0.21 | 59.55 | 5464.48 | 0.08 | |
| 05/27/15 | 70.24 | 5438.97 | -0.17 | 31.11 | 5458.51 | -0.03 | 59.37 | 5464.66 | 0.18 | |
| 06/29/15 | 70.33 | 5438.88 | -0.09 | 31.14 | 5458.48 | -0.03 | 59.37 | 5464.66 | 0.00 | |
| 07/29/15 | 70.27 | 5438.94 | 0.06 | 31.13 | 5458.49 | 0.01 | 59.53 | 5464.50 | -0.16 | |
| 08/28/15 | 70.08 | 5439.13 | 0.19 | 31.02 | 5458.60 | 0.11 | 59.50 | 5464.53 | 0.03 | |
| 09/29/15 | 70.22 | 5438.99 | -0.14 | 30.98 | 5458.64 | 0.04 | 59.46 | 5464.57 | 0.04 | |
| 10/29/15 | 70.43 | 5438.78 | -0.21 | 31.04 | 5458.58 | -0.06 | 59.35 | 5464.68 | 0.11 | |
| 11/25/15 | 71.21 | 5438.00 | -0.78 | 31.32 | 5458.30 | -0.28 | 59.69 | 5464.34 | -0.34 | |
| 01/05/16 | 71.97 | 5437.24 | -0.76 | 31.71 | 5457.91 | -0.39 | 59.84 | 5464.19 | -0.15 | |
| Annual WL Change | | | -0.88 | | | -0.87 | | | | -0.89 |
| | | | | | | | | | | |
| 01/26/16 | 72.41 | 5436.80 | -0.44 | 31.95 | 5457.67 | -0.24 | 60.07 | 5463.96 | -0.23 | |
| 02/22/16 | 72.74 | 5436.47 | -0.33 | 32.17 | 5457.45 | -0.22 | 60.06 | 5463.97 | 0.01 | |
| 03/29/16 | 73.04 | 5436.17 | -0.30 | 32.34 | 5457.28 | -0.17 | 59.85 | 5464.18 | 0.21 | |
| 04/26/16 | 73.22 | 5435.99 | -0.18 | 32.50 | 5457.12 | -0.16 | 59.66 | 5464.37 | 0.19 | |
| 05/25/16 | 73.32 | 5435.89 | -0.10 | 32.60 | 5457.02 | -0.10 | 59.36 | 5464.67 | 0.30 | |
| 06/30/16 | 73.38 | 5435.83 | -0.06 | 32.49 | 5457.13 | 0.11 | 59.31 | 5464.72 | 0.05 | |
| 07/26/16 | 73.18 | 5436.03 | 0.20 | 32.27 | 5457.35 | 0.22 | 59.37 | 5464.66 | -0.06 | |
| 08/31/16 | 72.92 | 5436.29 | 0.26 | 32.01 | 5457.61 | 0.26 | 59.12 | 5464.91 | 0.25 | |
| 09/30/16 | 72.74 | 5436.47 | 0.18 | 31.90 | 5457.72 | 0.11 | 58.72 | 5465.31 | 0.40 | |
| 10/28/16 | 72.76 | 5436.45 | -0.02 | 31.84 | 5457.78 | 0.06 | 57.89 | 5466.14 | 0.83 | |
| 11/25/16 | 72.80 | 5436.41 | -0.04 | 31.88 | 5457.74 | -0.04 | 57.67 | 5466.36 | 0.22 | |
| 12/27/16 | 72.81 | 5436.40 | -0.01 | 31.98 | 5457.64 | -0.10 | 57.38 | 5466.65 | 0.29 | |
| Annual WL Change | | | -0.84 | | | -0.27 | | | | 2.46 |
| | | | | | | | | | | |
| 01/26/17 | 72.85 | 5436.36 | -0.04 | 32.12 | 5457.50 | -0.14 | 57.68 | 5466.35 | -0.30 | |
| 02/27/17 | 72.94 | 5436.27 | -0.09 | 32.21 | 5457.41 | -0.09 | 57.54 | 5466.49 | 0.14 | |
| 03/28/17 | 73.03 | 5436.18 | -0.09 | 32.22 | 5457.40 | -0.01 | 57.75 | 5466.28 | -0.21 | |
| 04/25/17 | 73.04 | 5436.17 | -0.01 | 32.26 | 5457.36 | -0.04 | 57.85 | 5466.18 | -0.10 | |
| 05/31/17 | 73.13 | 5436.08 | -0.09 | 32.16 | 5457.46 | 0.10 | 58.02 | 5466.01 | -0.17 | |
| 06/26/17 | 73.11 | 5436.10 | 0.02 | 32.01 | 5457.61 | 0.15 | 58.20 | 5465.83 | -0.18 | |
| 07/26/17 | 73.05 | 5436.16 | 0.06 | 31.70 | 5457.92 | 0.31 | 58.62 | 5465.41 | -0.42 | |
| 08/30/17 | 72.91 | 5436.30 | 0.14 | 31.39 | 5458.23 | 0.31 | 58.47 | 5465.56 | 0.15 | |
| 09/27/17 | 72.87 | 5436.34 | 0.04 | 31.23 | 5458.39 | 0.16 | 58.55 | 5465.48 | -0.08 | |
| 10/30/17 | 72.72 | 5436.49 | 0.15 | 31.24 | 5458.38 | -0.01 | 58.41 | 5465.62 | 0.14 | |
| 11/27/17 | 72.80 | 5436.41 | -0.08 | 31.40 | 5458.22 | -0.16 | 58.52 | 5465.51 | -0.11 | |
| 12/27/17 | 72.81 | 5436.40 | -0.01 | 31.56 | 5458.06 | -0.16 | 58.69 | 5465.34 | -0.17 | |
| Annual WL Change | | | 0.00 | | | 0.42 | | | | -1.31 |
| 01/25/18 | 72.87 | 5436.34 | -0.06 | 31.83 | 5457.79 | -0.27 | 59.06 | 5464.97 | -0.37 | |
| 02/26/18 | 72.99 | 5436.22 | -0.12 | 32.07 | 5457.55 | -0.24 | 59.32 | 5464.71 | -0.26 | |
| 03/26/18 | 73.02 | 5436.19 | -0.03 | 32.09 | 5457.53 | -0.02 | 59.77 | 5464.26 | -0.45 | |
| 04/24/18 | 73.03 | 5436.18 | -0.01 | 32.19 | 5457.43 | -0.10 | 60.08 | 5463.95 | -0.31 | |
| 05/29/18 | 72.89 | 5436.32 | 0.14 | 32.12 | 5457.50 | 0.07 | 60.28 | 5463.75 | -0.20 | |
| 06/26/18 | 72.73 | 5436.48 | 0.16 | 31.81 | 5457.81 | 0.31 | 60.47 | 5463.56 | -0.19 | |
| 07/30/18 | 72.44 | 5436.77 | 0.29 | 31.42 | 5458.20 | 0.39 | 60.61 | 5463.42 | -0.14 | |
| 08/28/18 | 72.20 | 5437.01 | 0.24 | 31.11 | 5458.51 | 0.31 | 60.72 | 5463.31 | -0.11 | |
| 09/25/18 | 72.04 | 5437.17 | 0.16 | 30.95 | 5458.67 | 0.16 | 60.62 | 5463.41 | 0.10 | |
| 10/30/18 | 71.97 | 5437.24 | 0.07 | 30.95 | 5458.67 | 0.00 | 60.62 | 5463.41 | 0.00 | |
| 11/27/18 | 72.06 | 5437.15 | -0.09 | 31.01 | 5458.61 | -0.06 | 60.57 | 5463.46 | 0.05 | |
| 12/27/18 | 72.18 | 5437.03 | -0.12 | 31.34 | 5458.28 | -0.33 | 60.88 | 5463.15 | -0.31 | |
| Annual WL Change | | | 0.63 | | | 0.22 | | | | -2.19 |

* Well AMC-06 measuring point elevation changed Oct 04, re-surveyed Jan-10

Montana Bureau of Mines and Geology
Butte Mine Flooding Monitoring

| GWIC ID | 155569 | | 4656 | | | | 4673 | | | |
|-------------------------|--------|--------|--------|-------------|-----------|---------|--------------|-----------|-----------|--------------|
| | DATE | AMC-10 | AMC-12 | | AMC-13 | | SWL | Elevation | Mo Change | |
| | | | SWL | Elevation | Mo Change | SWL | Elevation | Mo Change | | |
| | | | | 5511.26 | | | | 5479.58 | | |
| 01/29/15 | DRY | | | | 21.61 | 5457.97 | -0.22 | 19.91 | 5455.43 | -0.23 |
| 02/24/15 | DRY | | | | 21.67 | 5457.91 | -0.06 | 19.96 | 5455.38 | -0.05 |
| 03/30/15 | DRY | | | | 21.85 | 5457.73 | -0.18 | 20.14 | 5455.20 | -0.18 |
| 04/30/15 | DRY | | | | 21.96 | 5457.62 | -0.11 | 20.93 | 5454.41 | -0.79 |
| 05/27/15 | DRY | | | | 22.01 | 5457.57 | -0.05 | 20.22 | 5455.12 | 0.71 |
| 06/29/15 | DRY | | | | 21.86 | 5457.72 | 0.15 | 20.09 | 5455.25 | 0.13 |
| 07/29/15 | DRY | | | | 21.73 | 5457.85 | 0.13 | 19.99 | 5455.35 | 0.10 |
| 08/28/15 | DRY | | | | 21.61 | 5457.97 | 0.12 | 19.92 | 5455.42 | 0.07 |
| 09/29/15 | DRY | | | | 21.52 | 5458.06 | 0.09 | 19.80 | 5455.54 | 0.12 |
| 10/29/15 | DRY | | | | 21.67 | 5457.91 | -0.15 | 19.99 | 5455.35 | -0.19 |
| 11/25/15 | DRY | | | | 21.85 | 5457.73 | -0.18 | 20.17 | 5455.17 | -0.18 |
| 01/05/16 | DRY | | | | 22.17 | 5457.41 | -0.32 | 20.44 | 5454.90 | -0.27 |
| Annual WL Change | | | | 0.00 | | | -0.78 | | | -0.76 |
| 01/26/16 | DRY | | | | 22.36 | 5457.22 | -0.19 | 20.58 | 5454.76 | -0.14 |
| 02/22/16 | DRY | | | | 22.48 | 5457.10 | -0.12 | 20.66 | 5454.68 | -0.08 |
| 03/29/16 | DRY | | | | 22.63 | 5456.95 | -0.15 | 20.75 | 5454.59 | -0.09 |
| 04/26/16 | DRY | | | | 22.72 | 5456.86 | -0.09 | 20.80 | 5454.54 | -0.05 |
| 05/25/16 | DRY | | | | 22.77 | 5456.81 | -0.05 | 20.79 | 5454.55 | 0.01 |
| 06/30/16 | DRY | | | | 22.61 | 5456.97 | 0.16 | 20.62 | 5454.72 | 0.17 |
| 07/26/16 | DRY | | | | 22.43 | 5457.15 | 0.18 | 20.45 | 5454.89 | 0.17 |
| 08/31/16 | DRY | | | | 22.19 | 5457.39 | 0.24 | 20.26 | 5455.08 | 0.19 |
| 09/30/16 | DRY | | | | 22.14 | 5457.44 | 0.05 | 20.27 | 5455.07 | -0.01 |
| 10/28/16 | DRY | | | | 22.13 | 5457.45 | 0.01 | 20.23 | 5455.11 | 0.04 |
| 11/25/16 | DRY | | | | 22.28 | 5457.30 | -0.15 | 20.37 | 5454.97 | -0.14 |
| 12/27/16 | DRY | | | | 22.44 | 5457.14 | -0.16 | 20.53 | 5454.81 | -0.16 |
| Annual WL Change | | | | 0.00 | | | -0.27 | | | -0.09 |
| 01/26/17 | DRY | | | | 22.68 | 5456.90 | -0.24 | 20.77 | 5454.57 | -0.24 |
| 02/27/17 | DRY | | | | 22.78 | 5456.80 | -0.10 | 20.80 | 5454.54 | -0.03 |
| 03/28/17 | DRY | | | | 22.75 | 5456.83 | 0.03 | 20.66 | 5454.68 | 0.14 |
| 04/25/17 | DRY | | | | 22.69 | 5456.89 | 0.06 | 20.60 | 5454.74 | 0.06 |
| 05/31/17 | DRY | | | | 22.41 | 5457.17 | 0.28 | 20.27 | 5455.07 | 0.33 |
| 06/26/17 | DRY | | | | 21.96 | 5457.62 | 0.45 | 19.81 | 5455.53 | 0.46 |
| 07/26/17 | DRY | | | | 21.62 | 5457.96 | 0.34 | 19.59 | 5455.75 | 0.22 |
| 08/30/17 | DRY | | | | 21.44 | 5458.14 | 0.18 | 19.52 | 5455.82 | 0.07 |
| 09/27/17 | DRY | | | | 21.38 | 5458.20 | 0.06 | 19.48 | 5455.86 | 0.04 |
| 10/30/17 | DRY | | | | 21.55 | 5458.03 | -0.17 | 19.74 | 5455.60 | -0.26 |
| 11/27/17 | DRY | | | | 21.75 | 5457.83 | -0.20 | 19.90 | 5455.44 | -0.16 |
| 12/27/17 | DRY | | | | 21.99 | 5457.59 | -0.24 | 20.12 | 5455.22 | -0.22 |
| Annual WL Change | | | | 0.00 | | | 0.45 | | | 0.41 |
| 01/25/18 | DRY | | | | 22.21 | 5457.37 | -0.22 | 20.33 | 5455.01 | -0.21 |
| 02/26/18 | DRY | | | | 22.46 | 5457.12 | -0.25 | 20.54 | 5454.80 | -0.21 |
| 03/26/18 | DRY | | | | 22.46 | 5457.12 | 0.00 | 20.48 | 5454.86 | 0.06 |
| 04/24/18 | DRY | | | | 22.29 | 5457.29 | 0.17 | 20.28 | 5455.06 | 0.20 |
| 05/29/18 | DRY | | | | 21.99 | 5457.59 | 0.30 | 19.96 | 5455.38 | 0.32 |
| 06/26/18 | DRY | | | | 21.44 | 5458.14 | 0.55 | 19.39 | 5455.95 | 0.57 |
| 07/30/18 | DRY | | | | 20.97 | 5458.61 | 0.47 | 19.20 | 5456.14 | 0.19 |
| 08/28/18 | DRY | | | | 20.76 | 5458.82 | 0.21 | 19.11 | 5456.23 | 0.09 |
| 09/25/18 | DRY | | | | 20.66 | 5458.92 | 0.10 | 19.11 | 5456.23 | 0.00 |
| 10/30/18 | DRY | | | | 20.91 | 5458.67 | -0.25 | 19.33 | 5456.01 | -0.22 |
| 11/27/18 | DRY | | | | 21.19 | 5458.39 | -0.28 | 19.58 | 5455.76 | -0.25 |
| 12/27/18 | DRY | | | | 21.47 | 5458.11 | -0.28 | 19.86 | 5455.48 | -0.28 |
| Annual WL Change | | | | 0.00 | | | 0.52 | | | 0.26 |

Montana Bureau of Mines and Geology
Butte Mine Flooding Monitoring

| GWIC ID | 4702 | | | |
|-------------------------|----------|--------|-----------|--------------|
| | DATE | AMC-15 | | |
| | | SWL | Elevation | Mo Change |
| | | | 5559.00 | |
| | 01/29/15 | 91.94 | 5467.06 | 0.20 |
| | 02/24/15 | 91.83 | 5467.17 | 0.11 |
| | 03/30/15 | 92.03 | 5466.97 | -0.20 |
| | 04/30/15 | 92.32 | 5466.68 | -0.29 |
| | 05/27/15 | 92.51 | 5466.49 | -0.19 |
| | 06/29/15 | 92.71 | 5466.29 | -0.20 |
| | 07/29/15 | 93.03 | 5465.97 | -0.32 |
| | 08/28/15 | 93.14 | 5465.86 | -0.11 |
| | 09/29/15 | 93.04 | 5465.96 | 0.10 |
| | 10/29/15 | 92.81 | 5466.19 | 0.23 |
| | 11/25/15 | 92.63 | 5466.37 | 0.18 |
| | 01/05/16 | 92.58 | 5466.42 | 0.05 |
| Annual WL Change | | | | -0.44 |
| | 01/26/16 | 92.64 | 5466.36 | -0.06 |
| | 02/22/16 | 92.95 | 5466.05 | -0.31 |
| | 03/29/16 | 93.16 | 5465.84 | -0.21 |
| | 04/26/16 | 93.21 | 5465.79 | -0.05 |
| | 05/25/16 | 93.23 | 5465.77 | -0.02 |
| | 06/30/16 | 93.56 | 5465.44 | -0.33 |
| | 07/26/16 | 93.56 | 5465.44 | 0.00 |
| | 08/31/16 | 93.69 | 5465.31 | -0.13 |
| | 09/30/16 | 93.71 | 5465.29 | -0.02 |
| | 10/28/16 | 93.49 | 5465.51 | 0.22 |
| | 11/25/16 | 93.41 | 5465.59 | 0.08 |
| | 12/27/16 | 93.04 | 5465.96 | 0.37 |
| Annual WL Change | | | | -0.46 |
| | 01/26/17 | 93.23 | 5465.77 | -0.19 |
| | 02/27/17 | 93.16 | 5465.84 | 0.07 |
| | 03/28/17 | 93.16 | 5465.84 | 0.00 |
| | 04/25/17 | 93.29 | 5465.71 | -0.13 |
| | 05/31/17 | 93.32 | 5465.68 | -0.03 |
| | 06/26/17 | 93.34 | 5465.66 | -0.02 |
| | 07/26/17 | 93.61 | 5465.39 | -0.27 |
| | 08/30/17 | 93.48 | 5465.52 | 0.13 |
| | 09/27/17 | 93.31 | 5465.69 | 0.17 |
| | 10/30/17 | 92.88 | 5466.12 | 0.43 |
| | 11/27/17 | 92.84 | 5466.16 | 0.04 |
| | 12/27/17 | 92.62 | 5466.38 | 0.22 |
| Annual WL Change | | | | 0.42 |
| | 01/25/18 | 92.70 | 5466.30 | -0.08 |
| | 02/26/18 | 92.77 | 5466.23 | -0.07 |
| | 03/26/18 | 92.88 | 5466.12 | -0.11 |
| | 04/24/18 | 92.99 | 5466.01 | -0.11 |
| | 05/29/18 | 93.09 | 5465.91 | -0.10 |
| | 06/26/18 | 93.22 | 5465.78 | -0.13 |
| | 07/30/18 | 93.31 | 5465.69 | -0.09 |
| | 08/28/18 | 93.10 | 5465.90 | 0.21 |
| | 09/25/18 | 92.56 | 5466.44 | 0.54 |
| | 10/30/18 | 92.30 | 5466.70 | 0.26 |
| | 11/27/18 | 92.02 | 5466.98 | 0.28 |
| | 12/27/18 | 92.10 | 5466.90 | -0.08 |
| Annual WL Change | | | | 0.52 |

Montana Bureau of Mines and Geology
Butte Mine Flooding Monitoring

| GWIC ID | 150401 | | | 150402 | | | 150409 | | |
|----------------------|--------|---------|--------------|--------|---------|--------------|--------|---------|----------------|
| | GS-41S | | | GS-41D | | | GS-44S | | |
| | SWL | ELEV. | Mo. Diff | SWL | ELEV. | Mo. Diff | SWL | ELEV. | Mo. Diff |
| | | 5491.90 | (ft) | | 5491.30 | 5491.39 | | 5476.20 | 5478.45 |
| 01/25/16 | 34.51 | 5457.39 | -0.24 | 34.56 | 5456.83 | -0.22 | 21.73 | 5456.72 | -0.15 |
| 02/22/16 | 34.61 | 5457.29 | -0.10 | 34.64 | 5456.75 | -0.08 | 21.84 | 5456.61 | -0.11 |
| 03/28/16 | 34.68 | 5457.22 | -0.07 | 34.71 | 5456.68 | -0.07 | 21.99 | 5456.46 | -0.15 |
| 04/26/16 | 34.75 | 5457.15 | -0.07 | 34.77 | 5456.62 | -0.06 | 22.03 | 5456.42 | -0.04 |
| 05/23/16 | 34.83 | 5457.07 | -0.08 | 34.86 | 5456.53 | -0.09 | 22.04 | 5456.41 | -0.01 |
| 06/27/16 | 34.77 | 5457.13 | 0.06 | 34.78 | 5456.61 | 0.08 | 21.78 | 5456.67 | 0.26 |
| 07/26/16 | 34.68 | 5457.22 | 0.09 | 34.66 | 5456.73 | 0.12 | 21.56 | 5456.89 | 0.22 |
| 08/30/16 | 34.50 | 5457.40 | 0.18 | 34.46 | 5456.93 | 0.20 | 21.26 | 5457.19 | 0.30 |
| 09/30/16 | 34.44 | 5457.46 | 0.06 | 34.45 | 5456.94 | 0.01 | 21.25 | 5457.20 | 0.01 |
| 10/28/16 | 34.43 | 5457.47 | 0.01 | 34.44 | 5456.95 | 0.01 | 21.30 | 5457.15 | -0.05 |
| 11/25/16 | 34.53 | 5457.37 | -0.10 | 34.54 | 5456.85 | -0.10 | 21.46 | 5456.99 | -0.16 |
| 12/27/16 | 34.61 | 5457.29 | -0.08 | 34.66 | 5456.73 | -0.12 | 21.68 | 5456.77 | -0.22 |
| Yearly Change | | | -0.34 | | | -0.32 | | | -0.10 |
| | | | | | | | | | |
| 01/26/17 | 34.89 | 5457.01 | -0.28 | 34.91 | 5456.48 | -0.25 | 21.97 | 5456.48 | -0.29 |
| 02/24/17 | 34.99 | 5456.91 | -0.10 | 34.98 | 5456.41 | -0.07 | 22.07 | 5456.38 | -0.10 |
| 03/27/17 | 34.93 | 5456.97 | 0.06 | 34.87 | 5456.52 | 0.11 | 21.98 | 5456.47 | 0.09 |
| 04/25/17 | 34.80 | 5457.10 | 0.13 | 34.77 | 5456.62 | 0.10 | 21.90 | 5456.55 | 0.08 |
| 05/31/17 | 34.57 | 5457.33 | 0.23 | 34.52 | 5456.87 | 0.25 | 21.56 | 5456.89 | 0.34 |
| 06/26/17 | 34.15 | 5457.75 | 0.42 | 34.10 | 5457.29 | 0.42 | 20.98 | 5457.47 | 0.58 |
| 07/26/17 | 33.77 | 5458.13 | 0.38 | 33.76 | 5457.63 | 0.34 | 20.60 | 5457.85 | 0.38 |
| 08/30/17 | 33.61 | 5458.29 | 0.16 | 33.63 | 5457.76 | 0.13 | 20.39 | 5458.06 | 0.21 |
| 09/27/17 | 33.51 | 5458.39 | 0.10 | 33.53 | 5457.86 | 0.10 | 20.41 | 5458.04 | -0.02 |
| 10/30/17 | 33.62 | 5458.28 | -0.11 | 33.72 | 5457.67 | -0.19 | 20.73 | 5457.72 | -0.32 |
| 11/27/17 | 33.86 | 5458.04 | -0.24 | 33.88 | 5457.51 | -0.16 | 21.01 | 5457.44 | -0.28 |
| 12/28/17 | 34.04 | 5457.86 | -0.18 | 34.13 | 5457.26 | -0.25 | 21.26 | 5457.19 | -0.25 |
| Yearly Change | | | 0.57 | | | 0.53 | | | 0.42 |
| | | | | | | | | | |
| 01/25/18 | 34.26 | 5457.64 | -0.22 | 34.32 | 5457.07 | -0.19 | 21.54 | 5456.91 | -0.28 |
| 02/26/18 | 34.54 | 5457.36 | -0.28 | 34.60 | 5456.79 | -0.28 | 21.79 | 5456.66 | -0.25 |
| 03/26/18 | 34.60 | 5457.30 | -0.06 | 34.52 | 5456.87 | 0.08 | 21.82 | 5456.63 | -0.03 |
| 04/24/18 | 34.33 | 5457.57 | 0.27 | 34.33 | 5457.06 | 0.19 | 21.59 | 5456.86 | 0.23 |
| 05/29/18 | 34.04 | 5457.86 | 0.29 | 34.02 | 5457.37 | 0.31 | 21.22 | 5457.23 | 0.37 |
| 06/26/18 | 33.58 | 5458.32 | 0.46 | 33.51 | 5457.88 | 0.51 | 20.42 | 5458.03 | 0.80 |
| 07/30/18 | P&A | | | P&A | | | 20.10 | 5458.35 | 0.32 |
| 08/28/18 | P&A | | | P&A | | | 19.97 | 5458.48 | 0.13 |
| 09/30/18 | P&A | | | P&A | | | 19.91 | 5458.54 | 0.06 |
| 10/30/18 | P&A | | | P&A | | | 20.24 | 5458.21 | -0.33 |
| 11/30/18 | P&A | | | P&A | | | 20.59 | 5457.86 | -0.35 |
| 12/27/18 | P&A | | | P&A | | | 20.93 | 5457.52 | -0.34 |
| Yearly Change | | | 0.46 | | | 0.62 | | | 0.33 |

Measuring point elevations changed October 2008 for wells GS-44S, GS-44D, GS-46S, and GS-46D

Montana Bureau of Mines and Geology
Butte Mine Flooding Monitoring

| GWIC ID | 150411 | | | 150412 | | | 150413 | | |
|----------------------|--------|---------|----------------|--------|---------|----------------|--------|---------|----------------|
| | GS-44D | | | GS-46S | | | GS-46D | | |
| | SWL | ELEV. | Mo. Diff | SWL | ELEV. | Mo. Diff | SWL | ELEV. | Mo. Diff |
| | | 5476.20 | 5478.48 | | 5483.80 | 5486.18 | | 5484.00 | 5486.32 |
| 01/25/16 | 22.52 | 5455.96 | -0.15 | 27.12 | 5459.06 | -0.14 | 27.17 | 5459.15 | -0.17 |
| 02/22/16 | 22.59 | 5455.89 | -0.07 | 27.37 | 5458.81 | -0.25 | 27.38 | 5458.94 | -0.21 |
| 03/28/16 | 22.71 | 5455.77 | -0.12 | 27.61 | 5458.57 | -0.24 | 27.57 | 5458.75 | -0.19 |
| 04/26/16 | 22.76 | 5455.72 | -0.05 | 27.76 | 5458.42 | -0.15 | 27.69 | 5458.63 | -0.12 |
| 05/23/16 | 22.76 | 5455.72 | 0.00 | 27.87 | 5458.31 | -0.11 | 27.79 | 5458.53 | -0.10 |
| 06/27/16 | 22.61 | 5455.87 | 0.15 | 27.75 | 5458.43 | 0.12 | 27.71 | 5458.61 | 0.08 |
| 07/26/16 | 22.41 | 5456.07 | 0.20 | 27.46 | 5458.72 | 0.29 | 27.43 | 5458.89 | 0.28 |
| 08/30/16 | 22.18 | 5456.30 | 0.23 | 27.10 | 5459.08 | 0.36 | 27.16 | 5459.16 | 0.27 |
| 09/30/16 | 22.18 | 5456.30 | 0.00 | 27.03 | 5459.15 | 0.07 | 27.08 | 5459.24 | 0.08 |
| 10/28/16 | 22.17 | 5456.31 | 0.01 | 27.02 | 5459.16 | 0.01 | 27.01 | 5459.31 | 0.07 |
| 11/25/16 | 22.31 | 5456.17 | -0.14 | 27.16 | 5459.02 | -0.14 | 27.11 | 5459.21 | -0.10 |
| 12/27/16 | 22.49 | 5455.99 | -0.18 | 27.31 | 5458.87 | -0.15 | 27.22 | 5459.10 | -0.11 |
| Yearly Change | | | -0.12 | | | -0.33 | | | -0.22 |
| | | | | | | | | | |
| 01/26/17 | 22.73 | 5455.75 | -0.24 | 27.53 | 5458.65 | -0.22 | 27.42 | 5458.90 | -0.20 |
| 02/24/17 | 22.79 | 5455.69 | -0.06 | 27.71 | 5458.47 | -0.18 | 27.57 | 5458.75 | -0.15 |
| 03/27/17 | 22.68 | 5455.80 | 0.11 | 27.79 | 5458.39 | -0.08 | 27.63 | 5458.69 | -0.06 |
| 04/25/17 | 22.62 | 5455.86 | 0.06 | 27.78 | 5458.40 | 0.01 | 27.64 | 5458.68 | -0.01 |
| 05/31/17 | 22.40 | 5456.08 | 0.22 | 27.64 | 5458.54 | 0.14 | 27.50 | 5458.82 | 0.14 |
| 06/26/17 | 21.82 | 5456.66 | 0.58 | 27.26 | 5458.92 | 0.38 | 27.17 | 5459.15 | 0.33 |
| 07/26/17 | 21.54 | 5456.94 | 0.28 | 26.66 | 5459.52 | 0.60 | 26.69 | 5459.63 | 0.48 |
| 08/30/17 | 21.43 | 5457.05 | 0.11 | 26.28 | 5459.90 | 0.38 | 26.37 | 5459.95 | 0.32 |
| 09/27/17 | 21.38 | 5457.10 | 0.05 | 26.16 | 5460.02 | 0.12 | 26.22 | 5460.10 | 0.15 |
| 10/30/17 | 21.64 | 5456.84 | -0.26 | 26.31 | 5459.87 | -0.15 | 26.31 | 5460.01 | -0.09 |
| 11/27/17 | 21.83 | 5456.65 | -0.19 | 26.57 | 5459.61 | -0.26 | 26.53 | 5459.79 | -0.22 |
| 12/28/17 | 22.08 | 5456.40 | -0.25 | 26.82 | 5459.36 | -0.25 | 26.75 | 5459.57 | -0.22 |
| Yearly Change | | | 0.41 | | | 0.49 | | | 0.47 |
| | | | | | | | | | |
| 01/25/18 | 22.31 | 5456.17 | -0.23 | 27.07 | 5459.11 | -0.25 | 26.97 | 5459.35 | -0.22 |
| 02/26/18 | 22.53 | 5455.95 | -0.22 | 27.34 | 5458.84 | -0.27 | 27.22 | 5459.10 | -0.25 |
| 03/26/18 | 22.51 | 5455.97 | 0.02 | 27.53 | 5458.65 | -0.19 | 27.39 | 5458.93 | -0.17 |
| 04/24/18 | 22.31 | 5456.17 | 0.20 | 27.50 | 5458.68 | 0.03 | 27.38 | 5458.94 | 0.01 |
| 05/29/18 | 22.00 | 5456.48 | 0.31 | 27.29 | 5458.89 | 0.21 | 27.18 | 5459.14 | 0.20 |
| 06/26/18 | 21.42 | 5457.06 | 0.58 | 26.89 | 5459.29 | 0.40 | 26.75 | 5459.57 | 0.43 |
| 07/30/18 | 21.11 | 5457.37 | 0.31 | 26.05 | 5460.13 | 0.84 | 26.13 | 5460.19 | 0.62 |
| 08/28/18 | 20.98 | 5457.50 | 0.13 | 25.71 | 5460.47 | 0.34 | 25.80 | 5460.52 | 0.33 |
| 09/30/18 | 20.91 | 5457.57 | 0.07 | 25.61 | 5460.57 | 0.10 | 25.63 | 5460.69 | 0.17 |
| 10/30/18 | 21.16 | 5457.32 | -0.25 | 25.79 | 5460.39 | -0.18 | 25.77 | 5460.55 | -0.14 |
| 11/30/18 | 21.43 | 5457.05 | -0.27 | 26.08 | 5460.10 | -0.29 | 26.02 | 5460.30 | -0.25 |
| 12/27/18 | 21.76 | 5456.72 | -0.33 | 26.41 | 5459.77 | -0.33 | 26.32 | 5460.00 | -0.30 |
| Yearly Change | | | 0.32 | | | 0.41 | | | 0.43 |

Measuring point elevations changed October 2008 for wells GS-44S, GS-44D, GS-46S, and GS-46D

Montana Bureau of Mines and Geology
Butte Mine Flooding Monitoring

| GWIC ID | 137598 | | | 247722 | | | 166182 | | |
|----------------------|--------|---------|--------------|--------|---------|--------------|--------|---------|--------------|
| | AMW-8 | | | AMW-20 | | | AMW-22 | | |
| | SWL | ELEV. | Mo. Diff | SWL | Elev | Mo. Diff | SWL | ELEV. | Mo. Diff |
| 01/25/16 | 37.99 | 5458.06 | -0.26 | 28.40 | 5458.87 | -0.33 | 39.24 | 5458.18 | -0.19 |
| 02/22/16 | 38.16 | 5457.89 | -0.17 | 28.46 | 5458.81 | -0.06 | 39.44 | 5457.98 | -0.20 |
| 03/28/16 | 38.25 | 5457.80 | -0.09 | 28.73 | 5458.54 | -0.27 | 39.64 | 5457.78 | -0.20 |
| 04/26/16 | 38.37 | 5457.68 | -0.12 | 28.93 | 5458.34 | -0.20 | 39.76 | 5457.66 | -0.12 |
| 05/23/16 | 38.50 | 5457.55 | -0.13 | 29.00 | 5458.27 | -0.07 | 39.88 | 5457.54 | -0.12 |
| 06/27/16 | 38.48 | 5457.57 | 0.02 | 28.57 | 5458.70 | 0.43 | 39.84 | 5457.58 | 0.04 |
| 07/26/16 | 38.39 | 5457.66 | 0.09 | 28.27 | 5459.00 | 0.30 | 39.73 | 5457.69 | 0.11 |
| 08/30/16 | 38.23 | 5457.82 | 0.16 | 27.79 | 5459.48 | 0.48 | 39.46 | 5457.96 | 0.27 |
| 09/30/16 | 38.10 | 5457.95 | 0.13 | 27.79 | 5459.48 | 0.00 | 39.33 | 5458.09 | 0.13 |
| 10/28/16 | 38.06 | 5457.99 | 0.04 | 28.04 | 5459.23 | -0.25 | 39.28 | 5458.14 | 0.05 |
| 11/25/16 | 38.12 | 5457.93 | -0.06 | 28.19 | 5459.08 | -0.15 | 39.12 | 5458.30 | 0.16 |
| 12/27/16 | 38.17 | 5457.88 | -0.05 | 28.32 | 5458.95 | -0.13 | 39.11 | 5458.31 | 0.01 |
| Yearly Change | | | -0.44 | | | -0.25 | | | -0.06 |
| 01/26/17 | 38.37 | 5457.68 | -0.20 | 28.69 | 5458.58 | -0.37 | 39.17 | 5458.25 | -0.06 |
| 02/24/17 | 38.55 | 5457.50 | -0.18 | 28.95 | 5458.32 | -0.26 | 39.26 | 5458.16 | -0.09 |
| 03/27/17 | 38.51 | 5457.54 | 0.04 | 28.89 | 5458.38 | 0.06 | 39.34 | 5458.08 | -0.08 |
| 04/25/17 | 38.46 | 5457.59 | 0.05 | 28.81 | 5458.46 | 0.08 | 39.37 | 5458.05 | -0.03 |
| 05/31/17 | 38.32 | 5457.73 | 0.14 | 28.71 | 5458.56 | 0.10 | 39.35 | 5458.07 | 0.02 |
| 06/26/17 | 38.02 | 5458.03 | 0.30 | 28.33 | 5458.94 | 0.38 | 39.24 | 5458.18 | 0.11 |
| 07/26/17 | 37.63 | 5458.42 | 0.39 | 28.10 | 5459.17 | 0.23 | 38.97 | 5458.45 | 0.27 |
| 08/30/17 | 37.38 | 5458.67 | 0.25 | 28.08 | 5459.19 | 0.02 | 38.60 | 5458.82 | 0.37 |
| 09/27/17 | 37.31 | 5458.74 | 0.07 | 28.07 | 5459.20 | 0.01 | 38.37 | 5459.05 | 0.23 |
| 10/30/17 | 37.32 | 5458.73 | -0.01 | 28.12 | 5459.15 | -0.05 | 38.33 | 5459.09 | 0.04 |
| 11/27/17 | 37.51 | 5458.54 | -0.19 | 28.44 | 5458.83 | -0.32 | 38.45 | 5458.97 | -0.12 |
| 12/28/17 | 37.68 | 5458.37 | -0.17 | 28.56 | 5458.71 | -0.12 | 38.64 | 5458.78 | -0.19 |
| Yearly Change | | | 0.49 | | | -0.24 | | | 0.47 |
| 01/25/18 | 37.89 | 5458.16 | -0.21 | 28.77 | 5458.50 | -0.21 | 38.83 | 5458.59 | -0.19 |
| 02/26/18 | 38.08 | 5457.97 | -0.19 | 28.96 | 5458.31 | -0.19 | 39.07 | 5458.35 | -0.24 |
| 03/26/18 | 38.22 | 5457.83 | -0.14 | 28.29 | 5458.98 | 0.67 | 39.13 | 5458.29 | -0.06 |
| 04/24/18 | 37.88 | 5458.17 | 0.34 | 28.50 | 5458.77 | -0.21 | 39.34 | 5458.08 | -0.21 |
| 05/29/18 | 37.70 | 5458.35 | 0.18 | 28.51 | 5458.76 | -0.01 | 39.37 | 5458.05 | -0.03 |
| 06/26/18 | 37.40 | 5458.65 | 0.30 | 28.09 | 5459.18 | 0.42 | 39.16 | 5458.26 | 0.21 |
| 07/30/18 | 36.79 | 5459.26 | 0.61 | 27.85 | 5459.42 | 0.24 | 38.78 | 5458.64 | 0.38 |
| 08/28/18 | 36.61 | 5459.44 | 0.18 | 27.64 | 5459.63 | 0.21 | 38.42 | 5459.00 | 0.36 |
| 09/30/18 | 36.51 | 5459.54 | 0.10 | 27.62 | 5459.65 | 0.02 | 38.19 | 5459.23 | 0.23 |
| 10/30/18 | 36.62 | 5459.43 | -0.11 | 28.68 | 5458.59 | -1.06 | 38.15 | 5459.27 | 0.04 |
| 11/30/18 | 36.77 | 5459.28 | -0.15 | 27.97 | 5459.30 | 0.71 | 38.25 | 5459.17 | -0.10 |
| 12/27/18 | 37.04 | 5459.01 | -0.27 | 28.16 | 5459.11 | -0.19 | 38.44 | 5458.98 | -0.19 |
| Yearly Change | | | 0.64 | | | 0.40 | | | 0.20 |

Montana Bureau of Mines and Geology
Butte Mine Flooding Monitoring

| GWIC ID | 222920 | | | 222921 | | | 224152 | | |
|----------------------|---------|---------|--------------|---------|---------|-------------|---------|---------------------|--------------|
| | BMF05-1 | | | BMF05-2 | | | BMF05-3 | | |
| | SWL | ELEV. | Mo. Diff | SWL | ELEV. | Mo. Diff | SWL | ELEV. ¹⁾ | Mo. Diff |
| 01/25/16 | 23.90 | 5458.05 | -0.22 | 43.60 | 5461.36 | -0.19 | 37.32 | 5462.85 | -0.19 |
| 02/22/16 | 24.05 | 5457.90 | -0.15 | 43.72 | 5461.24 | -0.12 | 37.81 | 5462.36 | -0.49 |
| 03/28/16 | 24.26 | 5457.69 | -0.21 | 43.83 | 5461.13 | -0.11 | 37.87 | 5462.30 | -0.06 |
| 04/26/16 | 24.42 | 5457.53 | -0.16 | 43.86 | 5461.10 | -0.03 | 37.79 | 5462.38 | 0.08 |
| 05/23/16 | 23.61 | 5458.34 | 0.81 | 43.92 | 5461.04 | -0.06 | 37.96 | 5462.21 | -0.17 |
| 06/27/16 | 24.36 | 5457.59 | -0.75 | 43.98 | 5460.98 | -0.06 | 38.10 | 5462.07 | -0.14 |
| 07/26/16 | 24.13 | 5457.82 | 0.23 | 43.85 | 5461.11 | 0.13 | 37.91 | 5462.26 | 0.19 |
| 08/30/16 | 23.88 | 5458.07 | 0.25 | 43.69 | 5461.27 | 0.16 | 37.63 | 5462.54 | 0.28 |
| 09/30/16 | 23.79 | 5458.16 | 0.09 | 43.51 | 5461.45 | 0.18 | 37.41 | 5462.76 | 0.22 |
| 10/28/16 | 23.79 | 5458.16 | 0.00 | 43.26 | 5461.70 | 0.25 | 37.22 | 5462.95 | 0.19 |
| 11/25/16 | 23.88 | 5458.07 | -0.09 | 43.13 | 5461.83 | 0.13 | 37.24 | 5462.93 | -0.02 |
| 12/27/16 | 24.11 | 5457.84 | -0.23 | 43.12 | 5461.84 | 0.01 | 37.32 | 5462.85 | -0.08 |
| Yearly Change | | | -0.43 | | | 0.29 | | | -0.19 |
| 01/26/17 | 24.29 | 5457.66 | -0.18 | 43.22 | 5461.74 | -0.10 | 37.53 | 5462.64 | -0.21 |
| 02/24/17 | 24.41 | 5457.54 | -0.12 | 43.24 | 5461.72 | -0.02 | 37.66 | 5462.51 | -0.13 |
| 03/27/17 | 24.41 | 5457.54 | 0.00 | 43.28 | 5461.68 | -0.04 | 37.76 | 5462.41 | -0.10 |
| 04/25/17 | 24.43 | 5457.52 | -0.02 | 43.36 | 5461.60 | -0.08 | 37.84 | 5462.33 | -0.08 |
| 05/31/17 | 24.21 | 5457.74 | 0.22 | 43.38 | 5461.58 | -0.02 | 37.88 | 5462.29 | -0.04 |
| 06/26/17 | 23.87 | 5458.08 | 0.34 | 43.32 | 5461.64 | 0.06 | 37.69 | 5462.48 | 0.19 |
| 07/26/17 | 23.56 | 5458.39 | 0.31 | 43.21 | 5461.75 | 0.11 | 37.59 | 5462.58 | 0.10 |
| 08/30/17 | 23.34 | 5458.61 | 0.22 | 42.90 | 5462.06 | 0.31 | 37.06 | 5463.11 | 0.53 |
| 09/27/17 | 23.24 | 5458.71 | 0.10 | 42.68 | 5462.28 | 0.22 | 36.69 | 5463.48 | 0.37 |
| 10/30/17 | 23.31 | 5458.64 | -0.07 | 42.52 | 5462.44 | 0.16 | 36.54 | 5463.63 | 0.15 |
| 11/27/17 | 23.51 | 5458.44 | -0.20 | 42.64 | 5462.32 | -0.12 | 36.68 | 5463.49 | -0.14 |
| 12/28/17 | 23.68 | 5458.27 | -0.17 | 42.82 | 5462.14 | -0.18 | 36.85 | 5463.32 | -0.17 |
| Yearly Change | | | 0.43 | | | 0.30 | | | 0.47 |
| 01/25/18 | 23.93 | 5458.02 | -0.25 | 42.99 | 5461.97 | -0.17 | 37.02 | 5463.15 | -0.17 |
| 02/26/18 | 24.15 | 5457.80 | -0.22 | 43.32 | 5461.64 | -0.33 | 37.31 | 5462.86 | -0.29 |
| 03/26/18 | 24.12 | 5457.83 | 0.03 | 43.47 | 5461.49 | -0.15 | 37.48 | 5462.69 | -0.17 |
| 04/24/18 | 24.11 | 5457.84 | 0.01 | 43.55 | 5461.41 | -0.08 | 37.58 | 5462.59 | -0.10 |
| 05/29/18 | 23.93 | 5458.02 | 0.18 | 43.61 | 5461.35 | -0.06 | 37.54 | 5462.63 | 0.04 |
| 06/26/18 | 23.50 | 5458.45 | 0.43 | 43.39 | 5461.57 | 0.22 | 37.18 | 5462.99 | 0.36 |
| 07/30/18 | 23.04 | 5458.91 | 0.46 | 43.10 | 5461.86 | 0.29 | 36.70 | 5463.47 | 0.48 |
| 08/28/18 | 22.80 | 5459.15 | 0.24 | 42.74 | 5462.22 | 0.36 | 36.26 | 5463.91 | 0.44 |
| 09/30/18 | 22.71 | 5459.24 | 0.09 | 42.41 | 5462.55 | 0.33 | 35.77 | 5464.40 | 0.49 |
| 10/30/18 | 22.79 | 5459.16 | -0.08 | 42.34 | 5462.62 | 0.07 | 35.69 | 5464.48 | 0.08 |
| 11/30/18 | 22.99 | 5458.96 | -0.20 | 42.43 | 5462.53 | -0.09 | 35.84 | 5464.33 | -0.15 |
| 12/27/18 | 23.24 | 5458.71 | -0.25 | 42.75 | 5462.21 | -0.32 | 36.15 | 5464.02 | -0.31 |
| Yearly Change | | | 0.44 | | | 0.07 | | | 0.70 |

1) Measuring point elevation changed April 2006 when well fitted with s

Montana Bureau of Mines and Geology
Butte Mine Flooding Monitoring

| GWIC ID | 224153 | | |
|----------------------|----------------|--------------|-----------------|
| | BMF05-4 | | |
| | SWL | ELEV. | Mo. Diff |
| | | 5542.37 | (ft) |
| 01/25/16 | 76.41 | 5465.96 | -0.33 |
| 02/22/16 | 76.45 | 5465.92 | -0.04 |
| 03/28/16 | 76.57 | 5465.80 | -0.12 |
| 04/26/16 | 76.60 | 5465.77 | -0.03 |
| 05/23/16 | 76.74 | 5465.63 | -0.14 |
| 06/27/16 | 76.95 | 5465.42 | -0.21 |
| 07/26/16 | 77.08 | 5465.29 | -0.13 |
| 08/30/16 | 77.14 | 5465.23 | -0.06 |
| 09/30/16 | 77.08 | 5465.29 | 0.06 |
| 10/28/16 | 76.83 | 5465.54 | 0.25 |
| 11/25/16 | 76.74 | 5465.63 | 0.09 |
| 12/27/16 | 76.19 | 5466.18 | 0.55 |
| Yearly Change | | | -0.11 |
| 01/26/17 | 76.61 | 5465.76 | -0.42 |
| 02/24/17 | 76.56 | 5465.81 | 0.05 |
| 03/27/17 | 76.58 | 5465.79 | -0.02 |
| 04/25/17 | 76.70 | 5465.67 | -0.12 |
| 05/31/17 | 76.77 | 5465.60 | -0.07 |
| 06/26/17 | 76.85 | 5465.52 | -0.08 |
| 07/26/17 | 77.07 | 5465.30 | -0.22 |
| 08/30/17 | 76.91 | 5465.46 | 0.16 |
| 09/27/17 | 76.65 | 5465.72 | 0.26 |
| 10/30/17 | 76.24 | 5466.13 | 0.41 |
| 11/27/17 | 76.16 | 5466.21 | 0.08 |
| 12/28/17 | 76.04 | 5466.33 | 0.12 |
| Yearly Change | | | 0.15 |
| 01/25/18 | 75.97 | 5466.40 | 0.07 |
| 02/26/18 | 76.22 | 5466.15 | -0.25 |
| 03/26/18 | 76.41 | 5465.96 | -0.19 |
| 04/24/18 | 76.49 | 5465.88 | -0.08 |
| 05/29/18 | 76.60 | 5465.77 | -0.11 |
| 06/26/18 | 76.68 | 5465.69 | -0.08 |
| 07/30/18 | 76.71 | 5465.66 | -0.03 |
| 08/28/18 | 76.40 | 5465.97 | 0.31 |
| 09/30/18 | 75.79 | 5466.58 | 0.61 |
| 10/30/18 | 75.51 | 5466.86 | 0.28 |
| 11/30/18 | 75.24 | 5467.13 | 0.27 |
| 12/27/18 | 75.36 | 5467.01 | -0.12 |
| Yearly Change | | | 0.68 |

urface mount cap.

Montana Bureau of Mines and Geology

Bedrock Water-Level Elevations

East Camp Mines and Bedrock Wells

Site Name/Monthly Elevations

| DATE MO/YR | ANSELMO* | ELEV SWL (FT) | MO. DIFF (FT) | BELMONT ELEV SWL (FT) | MO. DIFF (FT) | BERKELEY PIT ELEV (FT)(1) | MO. DIFF (FT) | GRANITE MTN ELEV SWL (FT) | MO. DIFF (FT) | KELLEY ELEV SWL (FT) | MO. DIFF (FT) | STEWARD ELEV SWL (FT) | MO. DIFF (FT) | WELL A ELEV SWL (FT) | MO. DIFF (FT) | | |
|---------------|----------|------------------|------------------|-----------------------------|------------------|------------------------------|------------------|---------------------------------|------------------|----------------------------|------------------|-----------------------------|------------------|----------------------------|------------------|---------|--|
| (MP Elev) | | 5783.80 | 5782.10 | | | 5604.00 | | | | 6051.80 | | 5877.52 | 5905.34 | 5906.27 | | 5856.45 | |
| Jan-16 | 428.91 | 5353.19 | 0.59 | NA | | 5331.91 | 0.64 | 706.40 | 5345.40 | 0.67 | 563.38 | 5342.89 | 0.66 | 508.09 | 5348.36 | 0.48 | |
| Feb-16 | 428.56 | 5353.54 | 0.35 | NA | | 5332.68 | 0.77 | 705.98 | 5345.82 | 0.42 | 562.96 | 5343.31 | 0.42 | 507.75 | 5348.70 | 0.34 | |
| Mar-16 | 427.86 | 5354.24 | 0.70 | NA | | 5333.37 | 0.69 | 705.29 | 5346.51 | 0.69 | 562.27 | 5344.00 | 0.69 | 507.09 | 5349.36 | 0.66 | |
| Apr-16 | 427.36 | 5354.74 | 0.50 | NA | | 5333.68 | 0.31 | 704.73 | 5347.07 | 0.56 | 561.92 | 5344.35 | 0.35 | 506.58 | 5349.87 | 0.51 | |
| May-16 | 426.88 | 5355.22 | 0.48 | NA | | 5333.98 | 0.30 | 704.19 | 5347.61 | 0.54 | 561.41 | 5344.86 | 0.51 | 506.04 | 5350.41 | 0.54 | |
| Jun-16 | 426.38 | 5355.72 | 0.50 | NA | | 5334.19 | 0.21 | 703.79 | 5348.01 | 0.40 | 561.00 | 5345.27 | 0.41 | 505.62 | 5350.83 | 0.42 | |
| Jul-16 | 426.16 | 5355.94 | 0.22 | NA | | 5334.36 | 0.17 | NR | | | 560.71 | 5345.56 | 0.29 | 505.34 | 5351.11 | 0.28 | |
| Aug-16 | 425.89 | 5356.21 | 0.27 | NA | | 5334.67 | 0.31 | NR | | | 560.25 | 5346.02 | 0.46 | 505.04 | 5351.41 | 0.30 | |
| Sep-16 | 425.27 | 5356.83 | 0.62 | NA | | 5334.97 | 0.30 | NR | | | 559.69 | 5346.58 | 0.56 | 504.34 | 5352.11 | 0.70 | |
| Oct-16 | 424.41 | 5357.69 | 0.86 | NA | | 5335.73 | 0.76 | NR | | | 558.71 | 5347.56 | 0.98 | 503.38 | 5353.07 | 0.96 | |
| Nov-16 | 423.75 | 5358.35 | 0.66 | NA | | 5336.24 | 0.51 | NR | | | 558.02 | 5348.25 | 0.69 | 502.88 | 5353.57 | 0.50 | |
| Dec-16 | 423.32 | 5358.78 | 0.43 | NA | | 5336.79 | 0.55 | NR | | | 557.43 | 5348.84 | 0.59 | 502.26 | 5354.19 | 0.62 | |
| Yearly Change | | | 6.18 | | | | 5.52 | | | 3.28 | | | 6.61 | | 6.31 | 6.43 | |
| Jan-17 | 422.88 | 5359.22 | 0.44 | NA | | 5337.67 | 0.88 | NR | | | 556.90 | 5349.37 | 0.53 | 501.80 | 5354.65 | 0.46 | |
| Feb-17 | 422.49 | 5359.61 | 0.39 | NA | | 5338.80 | 1.13 | NR | | | 556.43 | 5349.84 | 0.47 | 501.33 | 5355.12 | 0.47 | |
| Mar-17 | 421.53 | 5360.57 | 0.96 | NA | | 5339.30 | 0.50 | NR | | | 555.62 | 5350.65 | 0.81 | 500.38 | 5356.07 | 0.95 | |
| Apr-17 | 420.92 | 5361.18 | 0.61 | NA | | 5339.78 | 0.48 | NR | | | 555.56 | 5350.71 | 0.06 | 499.97 | 5356.48 | 0.41 | |
| May-17 | 420.24 | 5361.86 | 0.68 | NA | | 5340.27 | 0.49 | NR | | | 554.74 | 5351.53 | 0.82 | 499.44 | 5357.01 | 0.53 | |
| Jun-17 | 418.68 | 5363.42 | 1.56 | NA | | 5340.81 | 0.54 | NR | | | 553.55 | 5352.72 | 1.19 | NR | 0.00 | 0.00 | |
| Jul-17 | 419.07 | 5363.03 | -0.39 | NA | | 5341.21 | 0.40 | NR | | | 552.65 | 5353.62 | 0.90 | 498.55 | 5357.90 | 0.89 | |
| Aug-17 | 418.62 | 5363.48 | 0.45 | NA | | 5341.64 | 0.43 | NR | | | 552.26 | 5354.01 | 0.39 | 498.25 | 5358.20 | 0.30 | |
| Sep-17 | 418.21 | 5363.89 | 0.41 | NA | | 5342.29 | 0.65 | NR | | | 551.88 | 5354.39 | 0.38 | 497.63 | 5358.82 | 0.62 | |
| Oct-17 | 417.38 | 5364.72 | 0.83 | NA | | 5342.86 | 0.57 | NR | | | 551.16 | 5355.11 | 0.72 | 496.75 | 5359.70 | 0.88 | |
| Nov-17 | 416.81 | 5365.29 | 0.57 | NA | | 5343.32 | 0.46 | NR | | | 550.65 | 5355.62 | 0.51 | 496.26 | 5360.19 | 0.49 | |
| Dec-17 | 416.21 | 5365.89 | 0.60 | NA | | 5344.04 | 0.72 | NR | | | 550.16 | 5356.11 | 0.49 | 495.78 | 5360.67 | 0.48 | |
| Yearly Change | | | 7.11 | | | | 7.25 | | | 0.00 | | | 7.27 | | 6.48 | 5.94 | |
| Jan-18 | 415.63 | 5366.47 | 0.58 | NA | | 5344.58 | 0.54 | NR | | | 549.68 | 5356.59 | 0.48 | 495.27 | 5361.18 | 0.51 | |
| Feb-18 | 415.07 | 5367.03 | 0.56 | NA | | 5345.09 | 0.51 | NR | | | 549.14 | 5357.13 | 0.54 | 494.74 | 5361.71 | 0.53 | |
| Mar-18 | 414.49 | 5367.61 | 0.58 | NA | | 5345.63 | 0.54 | NR | | | 548.64 | 5357.63 | 0.50 | 494.15 | 5362.30 | 0.59 | |
| Apr-18 | 413.78 | 5368.32 | 0.71 | NA | | 5346.38 | 0.75 | NR | | | 548.03 | 5358.24 | 0.61 | 493.50 | 5362.95 | 0.65 | |
| May-18 | 412.67 | 5369.43 | 1.11 | NA | | 5347.24 | 0.86 | NR | | | 547.01 | 5359.26 | 1.02 | 492.65 | 5363.80 | 0.85 | |
| Jun-18 | 411.45 | 5370.65 | 1.22 | NA | | 5348.27 | 1.03 | NR | | | 546.11 | 5360.16 | 0.90 | 491.94 | 5364.51 | 0.71 | |
| Jul-18 | 412.11 | 5369.99 | -0.66 | NA | | 5348.68 | 0.41 | NR | | | 546.14 | 5360.13 | -0.03 | 491.50 | 5364.95 | 0.44 | |
| Aug-18 | 411.75 | 5370.35 | 0.36 | NA | | 5349.08 | 0.40 | NR | | | 545.51 | 5360.76 | 0.63 | 491.33 | 5365.12 | 0.17 | |
| Sep-18 | 411.36 | 5370.74 | 0.39 | NA | | 5349.59 | 0.51 | NR | | | 544.82 | 5361.45 | 0.69 | 490.59 | 5365.86 | 0.74 | |
| Oct-18 | 410.86 | 5371.24 | 0.50 | NA | | 5350.18 | 0.59 | NR | | | 544.06 | 5362.21 | 0.76 | 489.78 | 5366.67 | 0.81 | |
| Nov-18 | 410.22 | 5371.88 | 0.64 | NA | | 5350.66 | 0.48 | NR | | | 543.90 | 5362.37 | 0.16 | 488.92 | 5367.53 | 0.86 | |
| Dec-18 | 409.90 | 5372.20 | 0.32 | NA | | 5351.25 | 0.59 | NR | | | 542.68 | 5363.59 | 1.22 | 488.45 | 5368.00 | 0.47 | |
| Yearly Change | | | 6.31 | | | | 7.21 | | | 0.00 | | | 7.48 | | 7.33 | 7.07 | |

* Measuring point elevation changed 3/91.

Dec 1992 Kelley Mine SWL is 1/21/93 measurement.

Kelley Mine measuring point changed 6/99; 11/08 measuring point elevation change.

(1) 12/97 Berkeley Pit water level adjusted based upon Cashell Engineers survey data. Correction lowered water-level 1.11ft.

SWL - Static water-level, in feet, below ground surface

ELEV - Water-level elevation, in feet USGS Datum)

NA - No water-level available due to access problems or obstructions

East Camp-Bdr-Sites-SWL

Montana Bureau of Mines and Geology

Bedrock Water-Level Elevations

East Camp Mines and Bedrock Wells

Site Name/Monthly Elevations

| DATE MO/YR | WELL B SWL (FT) | ELEV (FT) | MO. DIFF (FT) | WELL C SWL (FT) | ELEV (FT) | MO. DIFF (FT) | WELL D-1 SWL (FT) | ELEV (FT) | MO. DIFF (FT) | WELL D-2 SWL (FT) | ELEV (FT) | MO. DIFF (FT) | WELL E SWL (FT) | ELEV (FT) | MO. DIFF (FT) | WELL F SWL (FT) | ELEV (FT) | MO. DIFF (FT) | WELL G SWL (FT) | ELEV (FT) | MO. DIFF (FT) | |
|---------------|--------------------|--------------|------------------|--------------------|--------------|------------------|----------------------|--------------|------------------|----------------------|--------------|------------------|--------------------|--------------|------------------|--------------------|--------------|------------------|--------------------|--------------|------------------|--|
| (MP Elev) | | 5557.82 | | | 5578.00 | | | 5591.54 | | | 5579.50 | | | 5562.40 | | | 5487.48 | | | 5537.56 | | |
| Jan-16 | 151.45 | 5406.37 | -0.13 | 239.42 | 5338.58 | 0.35 | 250.72 | 5340.82 | 0.33 | 239.43 | 5340.07 | 0.19 | 166.15 | 5396.25 | -0.39 | 33.78 | 5453.70 | -0.40 | 188.87 | 5348.69 | 0.21 | |
| Feb-16 | 151.00 | 5406.82 | 0.45 | 238.95 | 5339.05 | 0.47 | 250.34 | 5341.20 | 0.38 | 238.81 | 5340.69 | 0.62 | 165.81 | 5396.59 | 0.34 | 33.98 | 5453.50 | -0.20 | 188.42 | 5349.14 | 0.45 | |
| Mar-16 | 150.38 | 5407.44 | 0.62 | 238.33 | 5339.67 | 0.62 | 249.51 | 5342.03 | 0.83 | 238.20 | 5341.30 | 0.61 | 165.22 | 5397.18 | 0.59 | 34.12 | 5453.36 | -0.14 | 187.78 | 5349.78 | 0.64 | |
| Apr-16 | 150.01 | 5407.81 | 0.37 | 237.78 | 5340.22 | 0.55 | 248.92 | 5342.62 | 0.59 | 237.64 | 5341.86 | 0.56 | 164.85 | 5397.55 | 0.37 | 34.20 | 5453.28 | -0.08 | 187.21 | 5350.35 | 0.57 | |
| May-16 | 149.52 | 5408.30 | 0.49 | 237.12 | 5340.88 | 0.66 | 248.22 | 5343.32 | 0.70 | 236.71 | 5342.79 | 0.93 | 164.33 | 5398.07 | 0.52 | 34.31 | 5453.17 | -0.11 | 187.43 | 5350.13 | -0.22 | |
| Jun-16 | 149.06 | 5408.76 | 0.46 | 236.77 | 5341.23 | 0.35 | 247.83 | 5343.71 | 0.39 | 236.52 | 5342.98 | 0.19 | 164.33 | 5398.07 | 0.00 | 34.38 | 5453.10 | -0.07 | 186.35 | 5351.21 | 1.08 | |
| Jul-16 | 148.81 | 5409.01 | 0.25 | 236.27 | 5341.73 | 0.50 | 247.59 | 5343.95 | 0.24 | 236.24 | 5343.26 | 0.28 | 164.04 | 5398.36 | 0.29 | 34.16 | 5453.32 | 0.22 | 185.76 | 5351.80 | 0.59 | |
| Aug-16 | 148.79 | 5409.03 | 0.02 | 235.88 | 5342.12 | 0.39 | 246.83 | 5344.71 | 0.76 | 235.55 | 5343.95 | 0.69 | 163.67 | 5398.73 | 0.37 | 33.97 | 5453.51 | 0.19 | 185.34 | 5352.22 | 0.42 | |
| Sep-16 | 148.48 | 5409.34 | 0.31 | 235.61 | 5342.39 | 0.27 | 246.65 | 5344.89 | 0.18 | 235.38 | 5344.12 | 0.17 | 163.54 | 5398.86 | 0.13 | 33.85 | 5453.63 | 0.12 | 185.12 | 5352.44 | 0.22 | |
| Oct-16 | 149.04 | 5408.78 | -0.56 | 234.71 | 5343.29 | 0.90 | 247.41 | 5344.13 | -0.76 | 234.17 | 5345.33 | 1.21 | 162.87 | 5399.53 | 0.67 | 33.71 | 5453.77 | 0.14 | 184.31 | 5353.25 | 0.81 | |
| Nov-16 | 146.79 | 5411.03 | 2.25 | 234.09 | 5343.91 | 0.62 | 245.00 | 5346.54 | 2.41 | 233.58 | 5345.92 | 0.59 | 162.33 | 5400.07 | 0.54 | 33.66 | 5453.82 | 0.05 | 183.68 | 5353.88 | 0.63 | |
| Dec-16 | 146.41 | 5411.41 | 0.38 | 233.63 | 5344.37 | 0.46 | 244.74 | 5346.80 | 0.26 | 233.26 | 5346.24 | 0.32 | 162.27 | 5400.13 | 0.06 | 33.73 | 5453.75 | -0.07 | 183.18 | 5354.38 | 0.50 | |
| Yearly Change | | 4.91 | | | 6.14 | | | | 6.31 | | | 6.36 | | | 3.49 | | | -0.35 | | | 5.90 | |
| Jan-17 | 146.07 | 5411.75 | 0.34 | 233.09 | 5344.91 | 0.54 | 244.45 | 5347.09 | 0.29 | 232.81 | 5346.69 | 0.45 | 162.04 | 5400.36 | 0.23 | 33.84 | 5453.64 | -0.11 | 182.64 | 5354.92 | 0.54 | |
| Feb-17 | 145.42 | 5412.40 | 0.65 | 232.37 | 5345.63 | 0.72 | 243.36 | 5348.18 | 1.09 | 232.23 | 5347.27 | 0.58 | 161.23 | 5401.17 | 0.81 | 33.95 | 5453.53 | -0.11 | 181.98 | 5355.58 | 0.66 | |
| Mar-17 | 145.33 | 5412.49 | 0.09 | 232.02 | 5345.98 | 0.35 | 243.17 | 5348.37 | 0.19 | 231.80 | 5347.70 | 0.43 | 161.27 | 5401.13 | -0.04 | 34.11 | 5453.37 | -0.16 | 181.65 | 5355.91 | 0.33 | |
| Apr-17 | 144.80 | 5413.02 | 0.53 | 231.27 | 5346.73 | 0.75 | 242.92 | 5348.62 | 0.25 | 228.91 | 5350.59 | 2.89 | 160.77 | 5401.63 | 0.50 | 34.02 | 5453.46 | 0.09 | 180.92 | 5356.64 | 0.73 | |
| May-17 | 144.40 | 5413.42 | 0.40 | 230.48 | 5347.52 | 0.79 | 241.68 | 5349.86 | 1.24 | 230.21 | 5349.29 | -1.30 | 161.97 | 5400.43 | -1.20 | 33.86 | 5453.62 | 0.16 | 180.14 | 5357.42 | 0.78 | |
| Jun-17 | 143.88 | 5413.94 | 0.52 | 230.24 | 5347.76 | 0.24 | 241.04 | 5350.50 | 0.64 | 229.61 | 5349.89 | 0.60 | 160.29 | 5402.11 | 1.68 | 34.01 | 5453.47 | -0.15 | 180.35 | 5357.21 | -0.21 | |
| Jul-17 | 150.23 | 5407.59 | -6.35 | 230.05 | 5347.95 | 0.19 | 240.60 | 5350.94 | 0.44 | 229.23 | 5350.27 | 0.38 | 160.77 | 5401.63 | -0.48 | 33.61 | 5453.87 | 0.40 | 179.52 | 5358.04 | 0.83 | |
| Aug-17 | 150.22 | 5407.60 | 0.01 | 229.75 | 5348.25 | 0.30 | 240.19 | 5351.35 | 0.41 | 228.89 | 5350.61 | 0.34 | 160.53 | 5401.87 | 0.24 | 33.36 | 5454.12 | 0.25 | 179.26 | 5358.30 | 0.26 | |
| Sep-17 | 153.41 | 5404.41 | -3.19 | 229.35 | 5348.65 | 0.40 | 239.82 | 5351.72 | 0.37 | 228.41 | 5351.09 | 0.48 | 160.36 | 5402.04 | 0.17 | 33.29 | 5454.19 | 0.07 | 178.94 | 5358.62 | 0.32 | |
| Oct-17 | 148.91 | 5408.91 | 4.50 | 228.95 | 5349.05 | 0.40 | 238.97 | 5352.57 | 0.85 | 227.73 | 5351.77 | 0.68 | 159.88 | 5402.52 | 0.48 | 33.03 | 5454.45 | 0.26 | 178.38 | 5359.18 | 0.56 | |
| Nov-17 | 148.17 | 5409.65 | 0.74 | 228.27 | 5349.73 | 0.68 | 238.59 | 5352.95 | 0.38 | 227.10 | 5352.40 | 0.63 | 159.58 | 5402.82 | 0.30 | 33.17 | 5454.31 | -0.14 | 177.91 | 5359.65 | 0.47 | |
| Dec-17 | 147.43 | 5410.39 | 0.74 | 227.71 | 5350.29 | 0.56 | 238.01 | 5353.53 | 0.58 | 226.69 | 5352.81 | 0.41 | 159.30 | 5403.10 | 0.28 | 33.27 | 5454.21 | -0.10 | 177.42 | 5360.14 | 0.49 | |
| Yearly Change | | -1.02 | | | 5.92 | | | | 6.73 | | | 6.57 | | | 2.97 | | | 0.46 | | | 5.76 | |
| Jan-18 | 146.69 | 5411.13 | 0.74 | 227.16 | 5350.84 | 0.55 | 237.61 | 5353.93 | 0.40 | 226.10 | 5353.40 | 0.59 | 158.91 | 5403.49 | 0.39 | 33.51 | 5453.97 | -0.24 | 176.89 | 5360.67 | 0.53 | |
| Feb-18 | 145.90 | 5411.92 | 0.79 | 226.55 | 5351.45 | 0.61 | 236.87 | 5354.67 | 0.74 | 225.43 | 5354.07 | 0.67 | 158.57 | 5403.83 | 0.34 | 33.64 | 5453.84 | -0.13 | 176.29 | 5361.27 | 0.60 | |
| Mar-18 | 145.52 | 5412.30 | 0.38 | 225.96 | 5352.04 | 0.59 | 236.49 | 5355.05 | 0.38 | 225.03 | 5354.47 | 0.40 | 158.47 | 5403.93 | 0.10 | 33.74 | 5453.74 | -0.10 | 175.84 | 5361.72 | 0.45 | |
| Apr-18 | 145.09 | 5412.73 | 0.43 | 225.49 | 5352.51 | 0.47 | 235.92 | 5355.62 | 0.57 | 224.64 | 5354.86 | 0.39 | 158.35 | 5404.05 | 0.12 | 33.67 | 5453.81 | 0.07 | 175.32 | 5362.24 | 0.52 | |
| May-18 | 145.30 | 5412.52 | -0.21 | 222.04 | 5355.96 | 3.45 | 235.07 | 5356.47 | 0.85 | 223.59 | 5355.91 | 1.05 | 157.77 | 5404.63 | 0.58 | 33.49 | 5453.99 | 0.18 | 174.51 | 5363.05 | 0.81 | |
| Jun-18 | 143.85 | 5413.97 | 1.45 | 224.03 | 5353.97 | -1.99 | 234.28 | 5357.26 | 0.79 | 222.84 | 5356.66 | 0.75 | 157.55 | 5404.85 | 0.22 | 33.00 | 5454.48 | 0.49 | 174.16 | 5363.40 | 0.35 | |
| Jul-18 | 143.42 | 5414.40 | 0.43 | 223.78 | 5354.22 | 0.25 | 233.84 | 5357.70 | 0.44 | 222.46 | 5357.04 | 0.38 | 157.42 | 5404.98 | 0.13 | 32.54 | 5454.94 | 0.46 | 173.67 | 5363.89 | 0.49 | |
| Aug-18 | 142.88 | 5414.94 | 0.54 | 223.34 | 5354.66 | 0.44 | 233.43 | 5358.11 | 0.41 | 221.99 | 5357.51 | 0.47 | 156.93 | 5405.47 | 0.49 | 32.25 | 5455.23 | 0.29 | 173.27 | 5364.29 | 0.40 | |
| Sep-18 | 142.50 | 5415.32 | 0.38 | 223.03 | 5354.97 | 0.31 | 233.08 | 5358.46 | 0.35 | 223.15 | 5356.35 | -1.16 | 156.70 | 5405.70 | 0.23 | 31.93 | 5455.55 | 0.32 | 173.00 | 5364.56 | 0.27 | |
| Oct-18 | 142.19 | 5415.63 | 0.31 | 222.51 | 5355.49 | 0.52 | 232.28 | 5359.26 | 0.80 | 220.93 | 5358.57 | 2.22 | 156.37 | 5406.03 | 0.33 | 31.71 | 5455.77 | 0.22 | 172.45 | 5365.11 | 0.55 | |
| Nov-18 | 141.60 | 5416.22 | 0.59 | 221.93 | 5356.07 | 0.58 | 231.56 | 5359.98 | 0.72 | 220.15 | 5359.35 | 0.78 | 155.87 | 5406.53 | 0.50 | 31.82 | 5455.66 | -0.11 | 171.83 | 5365.73 | 0.62 | |
| Dec-18 | 141.41 | 5416.41 | 0.19 | 221.50 | 5356.50 | 0.43 | 231.26 | 5360.28 | 0.30 | 219.87 | 5359.63 | 0.28 | 155.78 | 5406.62 | 0.09 | 32.01 | 5455.47 | -0.19 | 171.41 | 5366.15 | 0.42 | |
| Yearly Change | | 6.02 | | | 6.21 | | | | 6.75 | | | 6.82 | | | 3.52 | | | 1.26 | | | 6.01 | |

SWL - Static water-level, in feet, below ground surface

ELEV - Water-level elevation, in feet USGS Datum)

NA - No water-level available due to access problems or obstructions

East Camp-Bdr-Sites-SWL

Montana Bureau of Mines and Geology

Bedrock Water-Level Elevations

East Camp Mines and Bedrock Wells

Site Name/Monthly Elevations

| DATE MO/YR | WELL H SWL (FT) | ELEV (FT) | MO. DIFF (FT) | WELL J SWL (FT) | ELEV (FT) | MO. DIFF (FT) | LEXINGTON SWL (FT) | ELEV (FT) | MO. DIFF (FT) | PILOT BUTTE SWL (FT) | ELEV (FT) | MO. DIFF (FT) | BELMONT 1 SWL (FT) | ELEV (FT) | MO. DIFF (FT) | BELMONT 2 SWL (FT) | ELEV (FT) | MO. DIFF (FT) |
|---------------|--------------------|--------------|------------------|--------------------|--------------|------------------|-----------------------|--------------|------------------|-------------------------|--------------|------------------|-----------------------|--------------|------------------|-----------------------|--------------|------------------|
| (MP Elev) | | 5572.82 | | | 5530.03 | 5530.99 | | | 6216.59 | | 6056.98 | | | 5600.82 | | | | 5602.72 |
| Jan-16 | Plugged&abandoned | 196.85 | 5334.14 | 0.41 | 864.49 | 5352.10 | 0.52 | 701.41 | 5355.57 | 0.63 | 132.10 | 5468.72 | -3.45 | 260.23 | 5342.49 | 0.19 | | |
| Feb-16 | Plugged&abandoned | 196.18 | 5334.81 | 0.67 | 864.08 | 5352.51 | 0.41 | 701.01 | 5355.97 | 0.40 | 136.73 | 5464.09 | -4.63 | 259.66 | 5343.06 | 0.57 | | |
| Mar-16 | Plugged&abandoned | 195.65 | 5335.34 | 0.53 | 863.45 | 5353.14 | 0.63 | 700.35 | 5356.63 | 0.66 | 142.88 | 5457.94 | -6.15 | 258.97 | 5343.75 | 0.69 | | |
| Apr-16 | Plugged&abandoned | 195.04 | 5335.95 | 0.61 | 862.92 | 5353.67 | 0.53 | 699.75 | 5357.23 | 0.60 | 146.52 | 5454.30 | -3.64 | 258.21 | 5344.51 | 0.76 | | |
| May-16 | Plugged&abandoned | 194.41 | 5336.58 | 0.63 | 862.45 | 5354.14 | 0.47 | 699.20 | 5357.78 | 0.55 | 149.44 | 5451.38 | -2.92 | 257.72 | 5345.00 | 0.49 | | |
| Jun-16 | Plugged&abandoned | 194.12 | 5336.87 | 0.29 | 861.94 | 5354.65 | 0.51 | 698.65 | 5358.33 | 0.55 | 148.52 | 5452.30 | 0.92 | 257.15 | 5345.57 | 0.57 | | |
| Jul-16 | Plugged&abandoned | 193.84 | 5337.15 | 0.28 | 861.72 | 5354.87 | 0.22 | 698.45 | 5358.53 | 0.20 | 140.61 | 5460.21 | 7.91 | 256.91 | 5345.81 | 0.24 | | |
| Aug-16 | Plugged&abandoned | 193.35 | 5337.64 | 0.49 | 861.37 | 5355.22 | 0.35 | 698.17 | 5358.81 | 0.28 | 134.23 | 5466.59 | 6.38 | 256.46 | 5346.26 | 0.45 | | |
| Sep-16 | Plugged&abandoned | 192.58 | 5338.41 | 0.77 | 860.80 | 5355.79 | 0.57 | 697.59 | 5359.39 | 0.58 | 131.24 | 5469.58 | 2.99 | 256.11 | 5346.61 | 0.35 | | |
| Oct-16 | Plugged&abandoned | 191.84 | 5339.15 | 0.74 | 859.92 | 5356.67 | 0.88 | 696.73 | 5360.25 | 0.86 | 127.81 | 5473.01 | 3.43 | 254.97 | 5347.75 | 1.14 | | |
| Nov-16 | Plugged&abandoned | 191.21 | 5339.78 | 0.63 | 859.21 | 5357.38 | 0.71 | 697.59 | 5359.39 | -0.86 | 124.24 | 5476.58 | 3.57 | 254.36 | 5348.36 | 0.61 | | |
| Dec-16 | Plugged&abandoned | 190.65 | 5340.34 | 0.56 | 858.56 | 5358.03 | 0.65 | 697.15 | 5359.83 | 0.44 | 123.48 | 5477.34 | 0.76 | 253.81 | 5348.91 | 0.55 | | |
| Yearly Change | | | | | 6.61 | | | 6.45 | | | 4.89 | | | 5.17 | | | 6.61 | |
| Jan-17 | Plugged&abandoned | 190.14 | 5340.85 | 0.51 | 858.11 | 5358.48 | 0.45 | 696.63 | 5360.35 | 0.52 | 126.54 | 5474.28 | -3.06 | 253.52 | 5349.20 | 0.29 | | |
| Feb-17 | Plugged&abandoned | 189.52 | 5341.47 | 0.62 | 857.56 | 5359.03 | 0.55 | 696.11 | 5360.87 | 0.52 | 130.43 | 5470.39 | -3.89 | 252.81 | 5349.91 | 0.71 | | |
| Mar-17 | Plugged&abandoned | 188.88 | 5342.11 | 0.64 | 856.78 | 5359.81 | 0.78 | 695.26 | 5361.72 | 0.85 | 133.97 | 5466.85 | -3.54 | 252.08 | 5350.64 | 0.73 | | |
| Apr-17 | Plugged&abandoned | 188.16 | 5342.83 | 0.72 | 856.24 | 5360.35 | 0.54 | 694.67 | 5362.31 | 0.59 | 137.31 | 5463.51 | -3.34 | 251.31 | 5351.41 | 0.77 | | |
| May-17 | Plugged&abandoned | 187.34 | 5343.65 | 0.82 | 855.53 | 5361.06 | 0.71 | 693.74 | 5363.24 | 0.93 | 139.29 | 5461.53 | -1.98 | 250.39 | 5352.33 | 0.92 | | |
| Jun-17 | Plugged&abandoned | 186.82 | 5344.17 | 0.52 | 854.57 | 5362.02 | 0.96 | 692.19 | 5364.79 | 1.55 | 134.97 | 5465.85 | 4.32 | 249.53 | 5353.19 | 0.86 | | |
| Jul-17 | Plugged&abandoned | 186.53 | 5344.46 | 0.29 | 854.59 | 5362.00 | -0.02 | 691.19 | 5365.79 | 1.00 | 122.21 | 5478.61 | 12.76 | 249.49 | 5353.23 | 0.04 | | |
| Aug-17 | Plugged&abandoned | 186.23 | 5344.76 | 0.30 | 854.44 | 5362.15 | 0.15 | 690.85 | 5366.13 | 0.34 | 117.54 | 5483.28 | 4.67 | 249.28 | 5353.44 | 0.21 | | |
| Sep-17 | Plugged&abandoned | 185.71 | 5345.28 | 0.52 | 854.33 | 5362.26 | 0.11 | 690.73 | 5366.25 | 0.12 | 116.86 | 5483.96 | 0.68 | 248.82 | 5353.90 | 0.46 | | |
| Oct-17 | Plugged&abandoned | 185.00 | 5345.99 | 0.71 | 853.63 | 5362.96 | 0.70 | 689.71 | 5367.27 | 1.02 | 116.64 | 5484.18 | 0.22 | 248.11 | 5354.61 | 0.71 | | |
| Nov-17 | Plugged&abandoned | 184.35 | 5346.64 | 0.65 | 853.04 | 5363.55 | 0.59 | 689.24 | 5367.74 | 0.47 | 117.71 | 5483.11 | -1.07 | 247.54 | 5355.18 | 0.57 | | |
| Dec-17 | Plugged&abandoned | 183.85 | 5347.14 | 0.50 | 852.42 | 5364.17 | 0.62 | 688.67 | 5368.31 | 0.57 | 117.77 | 5483.05 | -0.06 | 247.04 | 5355.68 | 0.50 | | |
| Yearly Change | | | | | 6.80 | | | 6.14 | | | 8.48 | | | 5.71 | | | 6.77 | |
| Jan-18 | Plugged&abandoned | 183.18 | 5347.81 | 0.67 | 851.75 | 5364.84 | 0.67 | 688.19 | 5368.79 | 0.48 | 120.58 | 5480.24 | -2.81 | 246.57 | 5356.15 | 0.47 | | |
| Feb-18 | Plugged&abandoned | 182.61 | 5348.38 | 0.57 | 851.15 | 5365.44 | 0.60 | 687.59 | 5369.39 | 0.60 | 125.40 | 5475.42 | -4.82 | 245.91 | 5356.81 | 0.66 | | |
| Mar-18 | Plugged&abandoned | 182.04 | 5348.95 | 0.57 | 850.61 | 5365.98 | 0.54 | 687.09 | 5369.89 | 0.50 | 130.00 | 5470.82 | -4.60 | 245.44 | 5357.28 | 0.47 | | |
| Apr-18 | Plugged&abandoned | 181.40 | 5349.59 | 0.64 | 849.98 | 5366.61 | 0.63 | 686.44 | 5370.54 | 0.65 | 133.68 | 5467.14 | -3.68 | 244.77 | 5357.95 | 0.67 | | |
| May-18 | Plugged&abandoned | 180.58 | 5350.41 | 0.82 | 849.06 | 5367.53 | 0.92 | 685.18 | 5371.80 | 1.26 | 131.31 | 5469.51 | 2.37 | 243.83 | 5358.89 | 0.94 | | |
| Jun-18 | Plugged&abandoned | 179.79 | 5351.20 | 0.79 | 848.32 | 5368.27 | 0.74 | 684.14 | 5372.84 | 1.04 | 106.63 | 5494.19 | 24.68 | 243.06 | 5359.66 | 0.77 | | |
| Jul-18 | Plugged&abandoned | 179.53 | 5351.46 | 0.26 | 848.38 | 5368.21 | -0.06 | 683.30 | 5373.68 | 0.84 | 104.68 | 5496.14 | 1.95 | 242.37 | 5360.35 | 0.69 | | |
| Aug-18 | Plugged&abandoned | 179.21 | 5351.78 | 0.32 | 847.85 | 5368.74 | 0.53 | 682.74 | 5374.24 | 0.56 | 109.21 | 5491.61 | -4.53 | 242.01 | 5360.71 | 0.36 | | |
| Sep-18 | Plugged&abandoned | 178.78 | 5352.21 | 0.43 | 847.09 | 5369.50 | 0.76 | 682.09 | 5374.89 | 0.65 | 108.76 | 5492.06 | 0.45 | 241.48 | 5361.24 | 0.53 | | |
| Oct-18 | Plugged&abandoned | 178.05 | 5352.94 | 0.73 | 846.21 | 5370.38 | 0.88 | 681.33 | 5375.65 | 0.76 | 108.81 | 5492.01 | -0.05 | 240.89 | 5361.83 | 0.59 | | |
| Nov-18 | Plugged&abandoned | 177.41 | 5353.58 | 0.64 | 845.35 | 5371.24 | 0.86 | 680.53 | 5376.45 | 0.80 | 110.19 | 5490.63 | -1.38 | 240.16 | 5362.56 | 0.73 | | |
| Dec-18 | Plugged&abandoned | 176.88 | 5354.11 | 0.53 | 844.90 | 5371.69 | 0.45 | 680.12 | 5376.86 | 0.41 | 112.89 | 5487.93 | -2.70 | 239.82 | 5362.90 | 0.34 | | |
| Yearly Change | | | | | 6.97 | | | 7.52 | | | 8.55 | | | 4.88 | | | 7.22 | |

SWL - Static water-level, in feet, below ground surface

ELEV - Water-level elevation, in feet USGS Datum)

NA - No water-level available due to access problems or obstructions

East Camp-Bdr-Sites-SWL

Montana Bureau of Mines and Geology
Butte Mine Flooding Monitoring

| GWIC ID Agency | 4647 Parrot Park Well | | | | 157638 Belmont Well #1 | | | | 4644 Hebgen Park Well | | | |
|-------------------|--------------------------|--------------------|----------|-------------|---------------------------|----------|-------------|--------------------|--------------------------|-------------|--|--|
| | Date (mm/dd/yy) | SWL(ft) (mp=ct) | Elev(ft) | Diff (ft)** | SWL(ft) (mp=ct) | Elev(ft) | Diff (ft)** | SWL(ft) (mp=ct) | Elev(ft) | Diff (ft)** | | |
| | | | 5520.66 | | | 5600.82 | | | 5516.15 | | | |
| MBMG | 07/26/16 | 120.69 | 5399.97 | -0.22 | 140.61 | 5460.21 | 7.91 | 26.86 | 5489.29 | 0.53 | | |
| MBMG | 08/30/16 | 120.09 | 5400.57 | 0.60 | 134.23 | 5466.59 | 6.38 | 26.25 | 5489.90 | 0.61 | | |
| MBMG | 09/03/16 | 119.32 | 5401.34 | 0.77 | 131.24 | 5469.58 | 2.99 | 25.41 | 5490.74 | 0.84 | | |
| MBMG | 10/31/16 | 118.54 | 5402.12 | 0.78 | 127.81 | 5473.01 | 3.43 | 25.26 | 5490.89 | 0.15 | | |
| MBMG | 11/28/16 | 117.92 | 5402.74 | 0.62 | 124.24 | 5476.58 | 3.57 | 25.03 | 5491.12 | 0.23 | | |
| MBMG | 12/27/16 | 117.69 | 5402.97 | 0.23 | 123.48 | 5477.34 | 0.76 | 25.12 | 5491.03 | -0.09 | | |
| MBMG | 01/27/17 | 117.94 | 5402.72 | -0.25 | 126.54 | 5474.28 | -3.06 | 26.10 | 5490.05 | -0.98 | | |
| MBMG | 02/27/17 | 118.31 | 5402.35 | -0.37 | 130.43 | 5470.39 | -3.89 | 26.34 | 5489.81 | -0.24 | | |
| MBMG | 03/27/17 | 118.64 | 5402.02 | -0.33 | 133.97 | 5466.85 | -3.54 | 26.25 | 5489.90 | 0.09 | | |
| MBMG | 04/25/17 | 118.75 | 5401.91 | -0.11 | 137.31 | 5463.51 | -3.34 | 26.25 | 5489.90 | 0.00 | | |
| MBMG | 05/31/17 | 118.90 | 5401.76 | -0.15 | 139.29 | 5461.53 | -1.98 | 25.49 | 5490.66 | 0.76 | | |
| MBMG | 06/26/17 | 118.81 | 5401.85 | 0.09 | 134.97 | 5465.85 | 4.32 | 23.61 | 5492.54 | 1.88 | | |
| MBMG | 07/26/17 | 115.97 | 5404.69 | 2.84 | 122.21 | 5478.61 | 12.76 | 24.10 | 5492.05 | -0.49 | | |
| MBMG | 08/30/17 | 115.16 | 5405.50 | 0.81 | 117.54 | 5483.28 | 4.67 | 24.15 | 5492.00 | -0.05 | | |
| MBMG | 09/27/17 | 111.78 | 5408.88 | 3.38 | 116.86 | 5483.96 | 0.68 | 24.39 | 5491.76 | -0.24 | | |
| MBMG | 10/30/17 | 113.70 | 5406.96 | -1.92 | 116.64 | 5484.18 | 0.22 | 24.38 | 5491.77 | 0.01 | | |
| MBMG | 11/27/17 | 114.82 | 5405.84 | -1.12 | 117.71 | 5483.11 | -1.07 | 24.66 | 5491.49 | -0.28 | | |
| MBMG | 12/28/17 | 115.79 | 5404.87 | -0.97 | 117.77 | 5483.05 | -0.06 | 24.93 | 5491.22 | -0.27 | | |
| MBMG | 01/26/18 | 116.62 | 5404.04 | -0.83 | 120.58 | 5480.24 | -2.81 | 25.41 | 5490.74 | -0.48 | | |
| MBMG | 02/27/18 | 117.38 | 5403.28 | -0.76 | 125.40 | 5475.42 | -4.82 | 25.84 | 5490.31 | -0.43 | | |
| MBMG | 03/26/18 | 118.08 | 5402.58 | -0.70 | 130.00 | 5470.82 | -4.60 | 26.22 | 5489.93 | -0.38 | | |
| MBMG | 04/24/18 | 117.99 | 5402.67 | 0.09 | 133.68 | 5467.14 | -3.68 | 25.53 | 5490.62 | 0.69 | | |
| MBMG | 05/29/18 | 117.80 | 5402.86 | 0.19 | 131.31 | 5469.51 | 2.37 | 24.07 | 5492.08 | 1.46 | | |
| MBMG | 06/26/18 | 117.06 | 5403.60 | 0.74 | 106.63 | 5494.19 | 24.68 | 22.09 | 5494.06 | 1.98 | | |
| MBMG | 07/30/18 | 112.79 | 5407.87 | 4.27 | 104.68 | 5496.14 | 1.95 | 19.74 | 5496.41 | 2.35 | | |
| MBMG | 08/28/18 | 112.04 | 5408.62 | 0.75 | 109.21 | 5491.61 | -4.53 | 19.18 | 5496.97 | 0.56 | | |
| MBMG | 09/28/18 | 112.29 | 5408.37 | -0.25 | 108.76 | 5492.06 | 0.45 | 19.12 | 5497.03 | 0.06 | | |
| MBMG | 10/30/18 | 113.03 | 5407.63 | -0.74 | 108.81 | 5492.01 | -0.05 | 19.92 | 5496.23 | -0.80 | | |
| MBMG | 11/27/18 | 113.12 | 5407.54 | -0.09 | 110.19 | 5490.63 | -1.38 | 20.46 | 5495.69 | -0.54 | | |
| MBMG | 12/27/18 | 113.64 | 5407.02 | -0.52 | 112.89 | 5487.93 | -2.70 | 21.53 | 5494.62 | -1.07 | | |
| TOTAL CHANGE ==> | | FROM 11/94==> | 6.87 | | FROM 8/96 ==> | -23.97 | | | | -0.11 | | |

Montana Bureau of Mines and Geology
Butte Mine Flooding
West Camp Water-Levels

| SITE NAME/MONTHLY ELEVATIONS | | | | | | | | | | | | | | | |
|------------------------------|---------------------|--------------|------------------|------------------|--------------|------------------|-------------------|--------------|------------------|---------------------|--------------|------------------|---------------------------|--------------|------------------|
| DATE MO/YR (MP Elev) | TRAVONA SWL (FT) | ELEV (FT) | MO. DIFF (FT) | EMMA SWL (FT) | ELEV (FT) | MO. DIFF (FT) | OPHIR SWL (FT) | ELEV (FT) | MO. DIFF (FT) | WELL 21 SWL (FT) | ELEV (FT) | MO. DIFF (FT) | CHESTER STEEL SWL (FT) | ELEV (FT) | MO. DIFF (FT) |
| 01/29/14 | 157.88 | 5434.10 | -3.02 | 203.66 | 5433.14 | -3.02 | 99.84 | 5433.32 | -2.99 | | | | 46.97 | 5582.60 | -1.78 |
| 02/26/14 | 160.88 | 5431.10 | -3.00 | 206.58 | 5430.22 | -2.92 | 102.85 | 5430.31 | -3.01 | | | | 49.19 | 5580.38 | -2.22 |
| 03/28/14 | 163.54 | 5428.44 | -2.66 | 207.60 | 5429.20 | -1.02 | 103.87 | 5429.29 | -1.02 | | | | 50.83 | 5578.74 | -1.64 |
| 04/28/14 | 163.72 | 5428.26 | -0.18 | 209.08 | 5427.72 | -1.48 | 105.36 | 5427.80 | -1.49 | | | | 51.85 | 5577.72 | -1.02 |
| 05/30/14 | 166.14 | 5425.84 | -2.42 | 211.83 | 5424.97 | -2.75 | 108.00 | 5425.16 | -2.64 | | | | 52.99 | 5576.58 | -1.14 |
| 06/26/14 | 166.67 | 5425.31 | -0.53 | 212.58 | 5424.22 | -0.75 | 108.74 | 5424.42 | -0.74 | | | | 39.82 | 5589.75 | 13.17 |
| 07/30/14 | 166.42 | 5425.56 | 0.25 | 212.31 | 5424.49 | 0.27 | 108.46 | 5424.70 | 0.28 | | | | 37.76 | 5591.81 | 2.06 |
| 08/27/14 | 166.80 | 5425.18 | -0.38 | 212.54 | 5424.26 | -0.23 | 108.85 | 5424.31 | -0.39 | | | | 39.11 | 5590.46 | -1.35 |
| 09/24/14 | 167.94 | 5424.04 | -1.14 | 213.68 | 5423.12 | -1.14 | 109.95 | 5423.21 | -1.10 | | | | 39.69 | 5589.88 | -0.58 |
| 10/29/14 | 168.51 | 5423.47 | -0.57 | 214.26 | 5422.54 | -0.58 | 110.51 | 5422.65 | -0.56 | | | | 40.92 | 5588.65 | -1.23 |
| 11/24/14 | 169.95 | 5422.03 | -1.44 | 215.70 | 5421.10 | -1.44 | 111.94 | 5421.22 | -1.43 | | | | 42.26 | 5587.31 | -1.34 |
| 12/22/14 | 169.82 | 5422.16 | 0.13 | 215.58 | 5421.22 | 0.12 | 111.80 | 5421.36 | 0.14 | | | | 44.18 | 5585.39 | -1.92 |
| Yearly Change | | | -14.96 | | | -14.94 | | | -14.95 | | | 0.00 | | | 1.01 |
| 01/28/15 | 169.89 | 5422.09 | -0.07 | 215.66 | 5421.14 | -0.08 | 111.82 | 5421.34 | -0.02 | | | | 46.83 | 5582.74 | -2.65 |
| 02/24/15 | 169.93 | 5422.05 | -0.04 | 215.67 | 5421.13 | -0.01 | 111.86 | 5421.30 | -0.04 | | | | 49.22 | 5580.35 | -2.39 |
| 03/25/15 | 169.87 | 5422.11 | 0.06 | 215.67 | 5421.13 | 0.00 | 111.86 | 5421.30 | 0.00 | | | | 51.31 | 5578.26 | -2.09 |
| 04/28/15 | 169.76 | 5422.22 | 0.11 | 215.60 | 5421.20 | 0.07 | 111.84 | 5421.32 | 0.02 | | | | 40.16 | 5589.41 | 11.15 |
| 05/27/15 | 169.96 | 5422.02 | -0.20 | 215.77 | 5421.03 | -0.17 | 111.89 | 5421.27 | -0.05 | | | | 40.90 | 5588.67 | -0.74 |
| 06/30/15 | 169.67 | 5422.31 | 0.29 | 215.40 | 5421.40 | 0.37 | 111.65 | 5421.51 | 0.24 | | | | 43.73 | 5585.84 | -2.83 |
| 07/28/15 | 169.61 | 5422.37 | 0.06 | 215.36 | 5421.44 | 0.04 | 111.60 | 5421.56 | 0.05 | | | | 45.48 | 5584.09 | -1.75 |
| 08/26/15 | 169.68 | 5422.30 | -0.07 | 215.40 | 5421.40 | -0.04 | 111.62 | 5421.54 | -0.02 | | | | 44.27 | 5585.30 | 1.21 |
| 09/29/15 | 169.55 | 5422.43 | 0.13 | 215.00 | 5421.80 | 0.40 | 111.19 | 5421.97 | 0.43 | | | | 43.48 | 5586.09 | 0.79 |
| 10/30/15 | 169.81 | 5422.17 | -0.26 | 215.58 | 5421.22 | -0.58 | 111.76 | 5421.40 | -0.57 | | | | 43.65 | 5585.92 | -0.17 |
| 11/25/15 | 169.84 | 5422.14 | -0.03 | 215.58 | 5421.22 | 0.00 | 111.72 | 5421.44 | 0.04 | | | | 45.10 | 5584.47 | -1.45 |
| 12/22/15 | 169.98 | 5422.00 | -0.14 | 215.73 | 5421.07 | -0.15 | 111.88 | 5421.28 | -0.16 | | | | 47.82 | 5581.75 | -2.72 |
| Yearly Change | | | -0.16 | | | -0.15 | | | -0.08 | | | 0.00 | | | -3.64 |
| 01/26/16 | 170.15 | 5421.83 | -0.17 | 215.89 | 5420.91 | -0.16 | 111.99 | 5421.17 | -0.11 | | | | 50.42 | 5579.15 | -2.60 |
| 02/26/16 | 168.99 | 5422.99 | 1.16 | 214.76 | 5422.04 | 1.13 | 110.84 | 5422.32 | 1.15 | | | | 52.33 | 5577.24 | -1.91 |
| 03/29/16 | 170.06 | 5421.92 | -1.07 | 215.85 | 5420.95 | -1.09 | 111.87 | 5421.29 | -1.03 | | | | 54.88 | 5574.69 | -2.55 |
| 04/25/16 | 169.85 | 5422.13 | 0.21 | 215.60 | 5421.20 | 0.25 | 111.70 | 5421.46 | 0.17 | | | | 56.56 | 5573.01 | -1.68 |
| 05/24/16 | 170.03 | 5421.95 | -0.18 | 215.75 | 5421.05 | -0.15 | 111.84 | 5421.32 | -0.14 | | | | 43.08 | 5586.49 | 13.48 |
| 06/30/16 | 169.93 | 5422.05 | 0.10 | 215.65 | 5421.15 | 0.10 | 111.77 | 5421.39 | 0.07 | | | | 44.51 | 5585.06 | -1.43 |
| 07/26/16 | 169.73 | 5422.25 | 0.20 | 215.48 | 5421.32 | 0.17 | 111.59 | 5421.57 | 0.18 | | | | 45.90 | 5583.67 | -1.39 |
| 08/26/16 | 169.68 | 5422.30 | 0.05 | 215.61 | 5421.19 | -0.13 | 111.69 | 5421.47 | -0.10 | | | | 44.38 | 5585.19 | 1.52 |
| 09/30/16 | 169.65 | 5422.33 | 0.03 | 215.39 | 5421.41 | 0.22 | 111.41 | 5421.75 | 0.28 | | | | 43.55 | 5586.02 | 0.83 |
| 10/28/16 | 169.89 | 5422.09 | -0.24 | 215.53 | 5421.27 | -0.14 | 111.64 | 5421.52 | -0.23 | | | | 43.58 | 5585.99 | -0.03 |
| 11/25/16 | 170.01 | 5421.97 | -0.12 | 215.74 | 5421.06 | -0.21 | 111.80 | 5421.36 | -0.16 | | | | 44.74 | 5584.83 | -1.16 |
| 12/22/16 | 170.20 | 5421.78 | -0.19 | 215.94 | 5420.86 | -0.20 | 112.04 | 5421.12 | -0.24 | | | | 47.03 | 5582.54 | -2.29 |
| Yearly Change | | | -0.22 | | | -0.21 | | | -0.16 | | | 0.00 | | | 0.79 |
| 01/26/17 | 170.37 | 5421.61 | -0.17 | 216.12 | 5420.68 | -0.18 | 112.20 | 5420.96 | -0.16 | | | | 49.33 | 5580.24 | -2.30 |
| 02/24/17 | 169.90 | 5422.08 | 0.47 | 215.62 | 5421.18 | 0.50 | 111.73 | 5421.43 | 0.47 | | | | 51.37 | 5578.20 | -2.04 |
| 03/27/17 | 169.71 | 5422.27 | 0.19 | 215.43 | 5421.37 | 0.19 | 111.56 | 5421.60 | 0.17 | | | | 52.59 | 5576.98 | -1.22 |
| 04/25/17 | 169.76 | 5422.22 | -0.05 | 215.50 | 5421.30 | -0.07 | 111.61 | 5421.55 | -0.05 | | | | 53.73 | 5575.84 | -1.14 |
| 05/30/17 | 169.34 | 5422.64 | 0.42 | 215.11 | 5421.69 | 0.39 | 111.21 | 5421.95 | 0.40 | | | | 52.94 | 5576.63 | 0.79 |
| 06/26/17 | 168.59 | 5423.39 | 0.75 | 214.26 | 5422.54 | 0.85 | 110.38 | 5422.78 | 0.83 | | | | 34.18 | 5595.39 | 18.76 |
| 07/26/17 | 168.53 | 5423.45 | 0.06 | 214.23 | 5422.57 | 0.03 | 110.45 | 5422.71 | -0.07 | | | | 29.37 | 5600.20 | 4.81 |
| 08/28/17 | 168.38 | 5423.60 | 0.15 | 214.16 | 5422.64 | 0.07 | 110.31 | 5422.85 | 0.14 | | | | 30.31 | 5599.26 | -0.94 |
| 09/27/17 | 168.70 | 5423.28 | -0.32 | 214.44 | 5422.36 | -0.28 | 110.70 | 5422.46 | -0.39 | | | | 33.24 | 5596.33 | -2.93 |
| 10/30/17 | 168.41 | 5423.57 | 0.29 | 214.17 | 5422.63 | 0.27 | 110.43 | 5422.73 | 0.27 | | | | 35.20 | 5594.37 | -1.96 |
| 11/27/17 | 168.61 | 5423.37 | -0.20 | 214.37 | 5422.43 | -0.20 | 110.56 | 5422.60 | -0.13 | | | | 37.09 | 5592.48 | -1.89 |
| 12/28/17 | 168.88 | 5423.10 | -0.27 | 214.64 | 5422.16 | -0.27 | 110.78 | 5422.38 | -0.22 | | | | 35.54 | 5594.03 | 1.55 |
| Yearly Change | | | 1.32 | | | 1.30 | | | 1.26 | | | 0.00 | | | 11.49 |
| 01/25/18 | 168.86 | 5423.12 | 0.02 | 214.63 | 5422.17 | 0.01 | 110.81 | 5422.35 | -0.03 | | | | 31.57 | 5598.00 | 3.97 |
| 02/26/18 | 169.03 | 5422.95 | -0.17 | 214.79 | 5422.01 | -0.16 | 110.96 | 5422.20 | -0.15 | | | | 28.62 | 5600.95 | 2.95 |
| 03/26/18 | 168.56 | 5423.42 | 0.47 | 214.31 | 5422.49 | 0.48 | 110.47 | 5422.69 | 0.49 | | | | 32.54 | 5597.03 | -3.92 |
| 04/24/18 | 168.68 | 5423.30 | -0.12 | 214.43 | 5422.37 | -0.12 | 110.60 | 5422.56 | -0.13 | | | | 36.52 | 5593.05 | -3.98 |
| 05/29/18 | 168.61 | 5423.37 | 0.07 | 214.34 | 5422.46 | 0.09 | 110.48 | 5422.68 | 0.12 | | | | 38.24 | 5591.33 | -1.72 |
| 06/26/18 | 165.56 | 5426.42 | 3.05 | 211.31 | 5425.49 | 3.03 | 107.48 | 5425.68 | 3.00 | | | | 36.58 | 5592.99 | 1.66 |
| 07/30/18 | 166.28 | 5425.70 | -0.72 | 212.04 | 5424.76 | -0.73 | 108.07 | 5425.09 | -0.59 | | | | 28.69 | 5600.88 | 7.89 |
| 08/28/18 | 167.90 | 5424.08 | -1.62 | 213.62 | 5423.18 | -1.58 | 109.61 | 5423.55 | -1.54 | | | | 28.93 | 5600.64 | -0.24 |
| 09/27/18 | 168.84 | 5423.14 | -0.94 | 214.58 | 5422.22 | -0.96 | 110.56 | 5422.60 | -0.95 | | | | 31.39 | 5598.18 | -2.46 |
| 10/30/18 | 169.11 | 5422.87 | -0.27 | 214.83 | 5421.97 | -0.25 | 110.79 | 5422.37 | -0.23 | | | | 34.97 | 5594.60 | -3.58 |
| 11/27/18 | 168.58 | 5423.40 | 0.53 | 214.33 | 5422.47 | 0.50 | 110.32 | 5422.84 | 0.47 | | | | 36.97 | 5592.60 | -2.00 |
| 12/27/18 | 168.69 | 5423.29 | -0.11 | 214.42 | 5422.38 | -0.09 | 110.40 | 5422.76 | -0.08 | | | | 39.49 | 5590.08 | -2.52 |
| Yearly Change | | | 0.19 | | | 0.22 | | | 0.38 | | | 0.00 | | | -3.95 |

SWL - STATIC WATER LEVEL, IN FEET, BELOW GROUND SURFACE(MP)

ELEV - WATER LEVEL ELEVATION, IN FEET, ABOVE MEAN SEA LEVEL (USGS DATUM)

NA - NO WATER LEVELS AVAILABLE DUE TO ACCESS PROBLEMS OR OBSTRUCTIONS

Ophir Mine Elevation changed April 2005 after casing repair.

Montana Bureau of Mines and Geology
Butte Mine Flooding Monitoring Data
West Camp Ground-Water Sites

| | | | | | | |
|----------------|-----------------------|---------------------------|---------------------------|--------------------------|--------------------------|--------------------------|
| GWIC ID | AMC-21 4993 | BMF96-1D 158224 | BMF96-1S 158225 | BMF96-2 158226 | BMF96-3 158231 | BMF96-4 164443 |
|----------------|-----------------------|---------------------------|---------------------------|--------------------------|--------------------------|--------------------------|

| Date | SWL (ft) | Elev. (ft) 5471.50 | Change (ft) | SWL (gs) 5471.12 | Elev. (ft) 5471.59 | Change (ft) 0.21 | SWL (gs) 5470.16 | Elev. (ft) 5470.98 | Change (ft) | SWL (gs) 5473.05 | Elev. (ft) 5458.67 | Change -0.41 | SWL (gs) 5467.27 | Elev. (ft) 5458.91 | Change 0.16 | SWL (gs) 5490.93 | Elev. (ft) 5491.30 | Change (ft) 5489.20 |
|----------|-------------|-----------------------|----------------|---------------------|-----------------------|---------------------|---------------------|-----------------------|----------------|---------------------|-----------------------|-----------------|---------------------|-----------------------|----------------|---------------------|-----------------------|------------------------|
| 07/30/14 | Plugged | | | 47.30 | 5424.29 | 0.21 | 19.18 | 5450.98 | 0.84 | 14.38 | 5458.67 | -0.41 | 8.36 | 5458.91 | 0.16 | 50.52 | 5438.68 | -0.14 |
| 08/27/14 | Plugged | | | 47.55 | 5424.04 | -0.25 | 18.47 | 5451.69 | 0.71 | 13.42 | 5459.63 | 0.96 | 7.50 | 5459.77 | 0.86 | 50.46 | 5438.74 | 0.06 |
| 09/24/14 | Plugged | | | 48.82 | 5422.77 | -1.27 | 18.95 | 5451.21 | -0.48 | 13.76 | 5459.29 | -0.34 | 8.16 | 5459.11 | -0.66 | 49.88 | 5439.32 | 0.58 |
| 10/29/14 | Plugged | | | 49.40 | 5422.19 | -0.58 | 19.98 | 5450.18 | -1.03 | 12.88 | 5460.17 | 0.88 | 8.65 | 5458.62 | -0.49 | 50.11 | 5439.09 | -0.23 |
| 11/24/14 | Plugged | | | 50.85 | 5420.74 | -1.45 | 20.79 | 5449.37 | -0.81 | 13.57 | 5459.48 | -0.69 | 9.03 | 5458.24 | -0.38 | 50.61 | 5438.59 | -0.50 |
| 12/22/14 | Plugged | | | 50.70 | 5420.89 | 0.15 | 21.06 | 5449.10 | -0.27 | 13.62 | 5459.43 | -0.05 | 9.17 | 5458.10 | -0.14 | 50.87 | 5438.33 | -0.26 |
| 01/28/15 | Plugged | | | 50.72 | 5420.87 | -0.02 | 21.56 | 5448.60 | -0.50 | 13.80 | 5459.25 | -0.18 | 9.44 | 5457.83 | -0.27 | 51.37 | 5437.83 | -0.50 |
| 02/25/15 | Plugged | | | 50.79 | 5420.80 | -0.07 | 20.58 | 5449.58 | 0.98 | 13.52 | 5459.53 | 0.28 | 9.35 | 5457.92 | 0.09 | 51.45 | 5437.75 | -0.08 |
| 03/25/15 | Plugged | | | 50.72 | 5420.87 | 0.07 | 21.36 | 5448.80 | -0.78 | 13.87 | 5459.18 | -0.35 | 9.61 | 5457.66 | -0.26 | 51.78 | 5437.42 | -0.33 |
| 04/28/15 | Plugged | | | 50.60 | 5420.99 | 0.12 | 21.81 | 5448.35 | -0.45 | 14.08 | 5458.97 | -0.21 | 9.48 | 5457.79 | 0.13 | 52.49 | 5436.71 | -0.71 |
| 05/27/15 | Plugged | | | 50.70 | 5420.89 | -0.10 | 21.45 | 5448.71 | 0.36 | 14.12 | 5458.93 | -0.04 | 9.10 | 5458.17 | 0.38 | 52.66 | 5436.54 | -0.17 |
| 06/30/15 | Plugged | | | 50.56 | 5421.03 | 0.14 | 20.33 | 5449.83 | 1.12 | 14.25 | 5458.80 | -0.13 | 8.95 | 5458.32 | 0.15 | 52.64 | 5436.56 | 0.02 |
| 07/28/15 | Plugged | | | 50.57 | 5421.02 | -0.01 | 21.09 | 5449.07 | -0.76 | 14.64 | 5458.41 | -0.39 | 8.50 | 5458.77 | 0.45 | 52.67 | 5436.53 | -0.03 |
| 08/25/15 | Plugged | | | 50.55 | 5421.04 | 0.02 | 20.67 | 5449.49 | 0.42 | 14.81 | 5458.24 | -0.17 | 8.80 | 5458.47 | -0.30 | 52.12 | 5437.08 | 0.55 |
| 09/29/15 | Plugged | | | 50.30 | 5421.29 | 0.25 | 20.11 | 5450.05 | 0.56 | 14.43 | 5458.62 | 0.38 | 8.60 | 5458.67 | 0.20 | 51.42 | 5437.78 | 0.70 |
| 10/26/15 | Plugged | | | 50.69 | 5420.90 | -0.39 | 20.23 | 5449.93 | -0.12 | 14.72 | 5458.33 | -0.29 | 9.15 | 5458.12 | -0.55 | 51.05 | 5438.15 | 0.37 |
| 11/24/15 | Plugged | | | 50.71 | 5420.88 | -0.02 | 20.71 | 5449.45 | -0.48 | 14.48 | 5458.57 | 0.24 | 9.32 | 5457.95 | -0.17 | 51.01 | 5438.19 | 0.04 |
| 12/28/15 | Plugged | | | 50.84 | 5420.75 | -0.13 | 21.88 | 5448.28 | -1.17 | 14.95 | 5458.10 | -0.47 | 9.63 | 5457.64 | -0.31 | 51.42 | 5437.78 | -0.41 |
| 01/26/16 | Plugged | | | 50.87 | 5420.72 | -0.03 | 22.79 | 5447.37 | -0.91 | 15.34 | 5457.71 | -0.39 | 9.96 | 5457.31 | -0.33 | 52.17 | 5437.03 | -0.75 |
| 02/23/16 | Plugged | | | 49.72 | 5421.87 | 1.15 | 22.18 | 5447.98 | 0.61 | 14.14 | 5458.91 | 1.20 | 9.67 | 5457.60 | 0.29 | 52.13 | 5437.07 | 0.04 |
| 03/29/16 | Plugged | | | 50.82 | 5420.77 | -1.10 | 21.66 | 5448.50 | 0.52 | 14.18 | 5458.87 | -0.04 | 9.74 | 5457.53 | -0.07 | 52.38 | 5436.82 | -0.25 |
| 04/25/16 | Plugged | | | 50.70 | 5420.89 | 0.12 | 21.71 | 5448.45 | -0.05 | 14.17 | 5458.88 | 0.01 | 9.58 | 5457.69 | 0.16 | 52.52 | 5436.68 | -0.14 |
| 05/24/16 | Plugged | | | 50.87 | 5420.72 | -0.17 | 21.57 | 5448.59 | 0.14 | 14.34 | 5458.71 | -0.17 | 9.43 | 5457.84 | 0.15 | 52.80 | 5436.40 | -0.28 |
| 06/28/16 | Plugged | | | 50.79 | 5420.80 | 0.08 | 20.49 | 5449.67 | 1.08 | 14.48 | 5458.57 | -0.14 | 9.17 | 5458.10 | 0.26 | 53.04 | 5436.16 | -0.24 |
| 07/26/16 | Plugged | | | 50.62 | 5420.97 | 0.17 | 20.29 | 5449.87 | 0.20 | 14.75 | 5458.30 | -0.27 | 9.01 | 5458.26 | 0.16 | 52.72 | 5436.48 | 0.32 |
| 08/26/16 | Plugged | | | 50.71 | 5420.88 | -0.09 | 20.08 | 5450.08 | 0.21 | 14.94 | 5458.11 | -0.19 | 8.82 | 5458.45 | 0.19 | 51.81 | 5437.39 | 0.91 |
| 10/03/16 | Plugged | | | 50.53 | 5421.06 | 0.18 | 20.86 | 5449.30 | -0.78 | 14.95 | 5458.10 | -0.01 | 9.01 | 5458.26 | -0.19 | 50.76 | 5438.44 | 1.05 |
| 10/28/16 | Plugged | | | 50.77 | 5420.82 | -0.24 | 20.87 | 5449.29 | -0.01 | 14.58 | 5458.47 | 0.37 | 9.05 | 5458.22 | -0.04 | 50.89 | 5438.31 | -0.13 |
| 11/28/16 | Plugged | | | 50.44 | 5421.15 | 0.33 | 20.65 | 5449.51 | 0.22 | 14.52 | 5458.53 | 0.06 | 9.23 | 5458.04 | -0.18 | 50.68 | 5438.52 | 0.21 |
| 12/28/16 | Plugged | | | 51.10 | 5420.49 | -0.66 | 21.89 | 5448.27 | -1.24 | 15.12 | 5457.93 | -0.60 | 9.61 | 5457.66 | -0.38 | 51.10 | 5438.10 | -0.42 |
| 01/26/17 | Plugged | | | 51.25 | 5420.34 | -0.15 | 22.91 | 5447.25 | -1.02 | 15.44 | 5457.61 | -0.32 | 9.85 | 5457.42 | -0.24 | 51.84 | 5437.36 | -0.74 |
| 02/24/17 | Plugged | | | 50.80 | 5420.79 | 0.45 | 22.13 | 5448.03 | 0.78 | 13.81 | 5459.24 | 1.63 | 9.62 | 5457.65 | 0.23 | 51.83 | 5437.37 | 0.01 |
| 03/27/17 | Plugged | | | 50.69 | 5420.90 | 0.11 | 20.68 | 5449.48 | 1.45 | 13.24 | 5459.81 | 0.57 | 9.25 | 5458.02 | 0.37 | 51.98 | 5437.22 | -0.15 |
| 04/25/17 | Plugged | | | 50.62 | 5420.97 | 0.07 | 20.17 | 5449.99 | 0.51 | 13.48 | 5459.57 | -0.24 | 8.97 | 5458.30 | 0.28 | 52.09 | 5437.11 | -0.11 |
| 05/30/17 | Plugged | | | 50.22 | 5421.37 | 0.40 | 18.27 | 5451.89 | 1.90 | 12.81 | 5460.24 | 0.67 | 8.24 | 5459.03 | 0.73 | 52.13 | 5437.07 | -0.04 |
| 06/26/17 | Plugged | | | 49.40 | 5422.19 | 0.82 | 16.67 | 5453.49 | 1.60 | 12.35 | 5460.70 | 0.46 | 7.86 | 5459.41 | 0.38 | 51.50 | 5437.70 | 0.63 |
| 07/26/17 | Plugged | | | 49.50 | 5422.09 | -0.10 | 18.33 | 5451.83 | -1.66 | 13.52 | 5459.53 | -1.17 | 8.18 | 5459.09 | -0.32 | 50.97 | 5438.23 | 0.53 |
| 08/28/17 | Plugged | | | 49.32 | 5422.27 | 0.18 | 20.42 | 5449.74 | -2.09 | 14.15 | 5458.90 | -0.63 | 8.31 | 5458.96 | -0.13 | 50.26 | 5438.94 | 0.71 |
| 09/27/17 | Plugged | | | 49.61 | 5421.98 | -0.29 | 21.47 | 5448.69 | -1.05 | 14.23 | 5458.82 | -0.08 | 8.47 | 5458.80 | -0.16 | 50.08 | 5439.12 | 0.18 |
| 10/30/17 | Plugged | | | 49.32 | 5422.27 | 0.29 | 21.62 | 5448.54 | -0.15 | 14.36 | 5458.69 | -0.13 | 8.72 | 5458.55 | -0.25 | 49.80 | 5439.40 | 0.28 |
| 11/27/17 | Plugged | | | 49.50 | 5422.09 | -0.18 | 21.77 | 5448.39 | -0.15 | 13.73 | 5459.32 | 0.63 | 8.66 | 5458.61 | 0.06 | 49.80 | 5439.40 | 0.00 |
| 12/28/17 | Plugged | | | 49.76 | 5421.83 | -0.26 | 22.14 | 5448.02 | -0.37 | 14.43 | 5458.62 | -0.70 | 8.98 | 5458.29 | -0.32 | 50.25 | 5438.95 | -0.45 |
| 01/25/18 | Plugged | | | 49.75 | 5421.84 | 0.01 | 22.79 | 5447.37 | -0.65 | 14.56 | 5458.49 | -0.13 | 9.22 | 5458.05 | -0.24 | 50.19 | 5439.01 | 0.06 |
| 02/26/18 | Plugged | | | 49.91 | 5421.68 | -0.16 | 22.77 | 5447.39 | 0.02 | 14.67 | 5458.38 | -0.11 | 9.37 | 5457.90 | -0.15 | 50.84 | 5438.36 | -0.65 |
| 03/26/18 | Plugged | | | 49.44 | 5422.15 | 0.47 | 20.31 | 5449.85 | 2.46 | 11.99 | 5461.06 | 2.68 | 8.87 | 5458.40 | 0.50 | 51.19 | 5438.01 | -0.35 |
| 04/24/18 | Plugged | | | 49.54 | 5422.05 | -0.10 | 17.84 | 5452.32 | 2.47 | 12.33 | 5460.72 | -0.34 | 8.44 | 5458.83 | 0.43 | 51.44 | 5437.76 | -0.25 |
| 05/29/18 | Plugged | | | 49.45 | 5422.14 | 0.09 | 16.63 | 5453.53 | 1.21 | 12.43 | 5460.62 | -0.10 | 8.03 | 5459.24 | 0.41 | 51.06 | 5438.14 | 0.38 |
| 06/26/18 | Plugged | | | 46.43 | 5425.16 | 3.02 | 14.63 | 5455.53 | 2.00 | 11.52 | 5461.53 | 0.91 | 7.67 | 5459.60 | 0.36 | 50.16 | 5439.04 | 0.90 |
| 07/30/18 | Plugged | | | 47.18 | 5424.41 | -0.75 | 16.12 | 5454.04 | -1.49 | 12.81 | 5460.24 | -1.29 | 8.16 | 5459.11 | -0.49 | 48.79 | 5440.41 | 1.37 |
| 08/28/18 | Plugged | | | 48.78 | 5422.81 | -1.60 | 17.48 | 5452.68 | -1.36 | 13.32 | 5459.73 | -0.51 | 8.17 | 5459.10 | -0.01 | 48.50 | 5440.70 | 0.29 |
| 09/27/18 | Plugged | | | 49.75 | 5421.84 | -0.97 | 18.44 | 5451.72 | -0.96 | 13.56 | 5459.49 | -0.24 | 8.42 | 5458.85 | -0.25 | 48.41 | 5440.79 | 0.09 |
| 10/30/18 | Plugged | | | 49.99 | 5421.60 | -0.24 | 19.55 | 5450.61 | -1.11 | 13.79 | 5459.26 | -0.23 | 8.91 | 5458.36 | -0.49 | 48.79 | 5440.41 | -0.38 |
| 11/27/18 | Plugged | | | 49.48 | 5422.11 | 0.51 | 20.28 | 5449.88 | -0.73 | 13.78 | 5459.27 | 0.01 | 9.06 | 5458.21 | -0.15 | 48.72 | 5440.48 | 0.07 |
| 12/27/18 | Plugged | | | 49.56 | 5422.03 | -0.08 | 21.40 | 5448.76 | -1.12 | 14.32 | 5458.73 | -0.54 | 9.38 | 5457.89 | -0.32 | 49.37 | 5439.83 | -0.65 |

MP elevations
changed 7/99<br/

Montana Bureau of Mines and Geology
Butte Mine Flooding Monitoring Data
West Camp Ground-Water Sites

| GWIC ID | WCPW-1 | | Chester Steele | | WC Extraction Well Data | | | | | | | | | |
|----------|----------|------------|----------------|----------|-------------------------|--------|---------|----------------|----------------------|------------------------|----------------------|----------------------|-----------|--|
| | 184133 | | 4773 | | | | | | | Monthly Average Pumpin | Monthly Total Pumped | Monthly Total Pumped | | |
| Date | SWL (gs) | Elev. (ft) | Change | SWL (gs) | Elev. (ft) | Change | Reading | Diff (gallons) | Daily Avg. (gallons) | Pump Rate (gpm) | g Rate (gpm) | (Gallons) | (Acre-Ft) | |
| 07/30/14 | NA | 5471.35 | | 37.76 | 5591.81 | 2.06 | NA | 7,953,084 | 233,914 | 162 | 162 | 7,953,084 | 24.41 | |
| 08/27/14 | NA | | | 39.11 | 5590.46 | -1.35 | NA | 7,075,619 | 252,701 | 175 | 175 | 7,075,619 | 21.71 | |
| 09/24/14 | NA | | | 39.69 | 5589.88 | -0.58 | NA | 8,471,121 | 302,540 | 210 | 210 | 8,471,121 | 26.00 | |
| 10/29/14 | NA | | | 40.92 | 5588.65 | -1.23 | NA | 10,407,807 | 297,366 | 207 | 207 | 10,407,807 | 31.94 | |
| 11/24/14 | NA | | | 42.26 | 5587.31 | -1.34 | NA | 8,045,781 | 309,453 | 215 | 215 | 8,045,781 | 24.69 | |
| 12/22/14 | NA | | | 44.18 | 5585.39 | -1.92 | NA | 9,114,920 | 260,426 | 181 | 181 | 9,114,920 | 27.97 | |
| 01/28/15 | NA | | | 46.83 | 5582.74 | -2.65 | NA | 7,105,053 | 263,150 | 183 | 183 | 7,105,053 | 21.80 | |
| 02/25/15 | NA | | | 49.22 | 5580.35 | -2.39 | NA | 6,829,580 | 243,914 | 169 | 169 | 6,829,580 | 20.96 | |
| 03/25/15 | NA | | | 51.31 | 5578.26 | -2.09 | NA | 7,734,949 | 276,248 | 192 | 192 | 7,734,949 | 23.74 | |
| 04/28/15 | NA | | | 40.16 | 5589.41 | 11.15 | NA | 5,722,244 | 168,301 | 117 | 117 | 5,722,244 | 17.56 | |
| 05/27/15 | NA | | | 40.90 | 5588.67 | -0.74 | NA | 5,470,047 | 188,622 | 131 | 131 | 5,470,047 | 16.79 | |
| 06/30/15 | NA | | | 43.73 | 5585.84 | -2.83 | NA | 6,940,926 | 204,145 | 142 | 142 | 6,940,926 | 21.30 | |
| 07/28/15 | NA | | | 45.48 | 5584.09 | -1.75 | NA | 5,988,507 | 213,875 | 149 | 149 | 5,988,507 | 18.38 | |
| 08/25/15 | NA | | | 44.27 | 5585.30 | 1.21 | NA | 6,754,700 | 241,239 | 168 | 168 | 6,754,700 | 20.73 | |
| 09/29/15 | NA | | | 43.48 | 5586.09 | 0.79 | NA | 8,853,840 | 252,967 | 176 | 176 | 8,853,840 | 27.17 | |
| 10/26/15 | NA | | | 43.65 | 5585.92 | -0.17 | NA | 7,437,206 | 275,452 | 191 | 191 | 7,437,206 | 22.82 | |
| 11/24/15 | NA | | | 45.10 | 5584.47 | -1.45 | NA | 6,819,909 | 235,169 | 163 | 163 | 6,819,909 | 20.93 | |
| 12/28/15 | NA | | | 47.82 | 5581.75 | -2.72 | NA | 7,775,304 | 228,685 | 159 | 159 | 7,775,304 | 23.86 | |
| 01/26/16 | NA | | | 50.42 | 5579.15 | -2.60 | NA | 5,632,320 | 194,218 | 135 | 135 | 5,632,320 | 17.28 | |
| 02/23/16 | NA | | | 52.33 | 5577.24 | -1.91 | NA | 5,077,449 | 181,337 | 126 | 126 | 5,077,449 | 15.58 | |
| 03/29/16 | NA | | | 54.88 | 5574.69 | -2.55 | NA | 6,926,015 | 197,886 | 137 | 137 | 6,926,015 | 21.26 | |
| 04/25/16 | NA | | | 56.56 | 5573.01 | -1.68 | NA | 5,197,616 | 192,504 | 134 | 134 | 5,197,616 | 15.95 | |
| 05/24/16 | NA | | | 43.08 | 5586.49 | 13.48 | NA | 5,181,567 | 178,675 | 124 | 124 | 5,181,567 | 15.90 | |
| 06/28/16 | NA | | | 44.51 | 5585.06 | -1.43 | NA | 6,561,620 | 187,475 | 130 | 130 | 6,561,620 | 20.14 | |
| 07/26/16 | NA | | | 45.90 | 5583.67 | -1.39 | NA | 5,690,808 | 203,243 | 141 | 141 | 5,690,808 | 17.46 | |
| 08/26/16 | NA | | | 44.38 | 5585.19 | 1.52 | NA | 8,181,122 | 263,907 | 183 | 183 | 8,181,122 | 25.11 | |
| 10/03/16 | NA | | | 43.55 | 5586.02 | 0.83 | NA | 8,811,943 | 231,893 | 161 | 161 | 8,811,943 | 27.04 | |
| 10/28/16 | NA | | | 43.58 | 5585.99 | -0.03 | NA | 7,039,816 | 281,585 | 196 | 196 | 7,039,816 | 21.60 | |
| 11/28/16 | NA | | | 44.74 | 5584.83 | -1.16 | NA | 6,741,637 | 217,472 | 151 | 151 | 6,741,637 | 20.69 | |
| 12/28/16 | NA | | | 47.03 | 5582.54 | -2.29 | NA | 7,914,721 | 263,824 | 183 | 183 | 7,914,721 | 24.29 | |
| 01/26/17 | NA | | | 49.33 | 5580.24 | -2.30 | NA | 6,023,230 | 207,698 | 144 | 144 | 6,023,230 | 18.48 | |
| 02/24/17 | NA | | | 51.37 | 5578.20 | -2.04 | NA | 5,695,825 | 196,408 | 136 | 136 | 5,695,825 | 17.48 | |
| 03/27/17 | NA | | | 52.59 | 5576.98 | -1.22 | NA | 7,048,176 | 227,361 | 158 | 158 | 7,048,176 | 21.63 | |
| 04/25/17 | NA | | | 53.73 | 5575.84 | -1.14 | NA | 5,582,824 | 192,511 | 134 | 134 | 5,582,824 | 17.13 | |
| 05/30/17 | NA | | | 52.94 | 5576.63 | 0.79 | NA | 5,304,941 | 151,570 | 105 | 105 | 5,304,941 | 16.28 | |
| 06/26/17 | NA | | | 34.18 | 5595.39 | 18.76 | NA | 7,827,145 | 289,894 | 201 | 201 | 7,827,145 | 24.02 | |
| 07/26/17 | NA | | | 29.37 | 5600.20 | 4.81 | NA | 10,552,627 | 351,754 | 244 | 244 | 10,552,627 | 32.38 | |
| 08/28/17 | NA | | | 30.31 | 5599.26 | -0.94 | NA | 13,720,006 | 415,758 | 289 | 289 | 13,720,006 | 42.11 | |
| 09/27/17 | NA | | | 33.24 | 5596.33 | -2.93 | NA | 10,374,456 | 345,815 | 240 | 240 | 10,374,456 | 31.84 | |
| 10/30/17 | NA | | | 35.20 | 5594.37 | -1.96 | NA | 9,477,726 | 287,204 | 199 | 199 | 9,477,726 | 29.09 | |
| 11/27/17 | NA | | | 37.09 | 5592.48 | -1.89 | NA | 10,560,111 | 377,147 | 262 | 262 | 10,560,111 | 32.41 | |
| 12/28/17 | NA | | | 35.54 | 5594.03 | 1.55 | NA | 7,936,423 | 256,014 | 178 | 178 | 7,936,423 | 24.36 | |
| 01/25/18 | NA | | | 31.57 | 5598.00 | 3.97 | NA | 9,573,614 | 341,915 | 237 | 237 | 9,573,614 | 29.38 | |
| 02/26/18 | NA | | | 28.62 | 5600.95 | 2.95 | NA | 7,307,262 | 228,352 | 159 | 159 | 7,307,262 | 22.43 | |
| 03/26/18 | NA | | | 32.54 | 5597.03 | -3.92 | NA | 6,963,105 | 248,682 | 173 | 173 | 6,963,105 | 21.37 | |
| 04/24/18 | NA | | | 36.52 | 5593.05 | -3.98 | NA | 7,051,286 | 243,148 | 169 | 169 | 7,051,286 | 21.64 | |
| 05/29/18 | NA | | | 38.24 | 5591.33 | -1.72 | NA | 9,455,995 | 270,171 | 188 | 188 | 9,455,995 | 29.02 | |
| 06/26/18 | NA | | | 36.58 | 5592.99 | 1.66 | NA | 7,275,331 | 259,833 | 180 | 180 | 7,275,331 | 22.33 | |
| 07/30/18 | NA | | | 28.69 | 5600.88 | 7.89 | NA | 8,939,642 | 262,931 | 183 | 183 | 8,939,642 | 27.43 | |
| 08/28/18 | NA | | | 28.93 | 5600.64 | -0.24 | NA | 14,437,249 | 497,836 | 346 | 346 | 14,437,249 | 44.31 | |
| 09/27/18 | NA | | | 31.39 | 5598.18 | -2.46 | NA | 11,502,200 | 383,407 | 266 | 266 | 11,502,200 | 35.30 | |
| 10/30/18 | NA | | | 34.97 | 5594.60 | -3.58 | NA | 10,646,537 | 322,622 | 224 | 224 | 10,646,537 | 32.67 | |
| 11/27/18 | NA | | | 36.97 | 5592.60 | -2.00 | NA | 12,032,115 | 429,718 | 298 | 298 | 12,032,115 | 36.93 | |
| 12/27/18 | NA | | | 39.49 | 5590.08 | -2.52 | NA | 8,979,582 | 299,319 | 208 | 208 | 8,979,582 | 27.56 | |

MP elevations
changed 7/99
(BMF96-1D)
and 7/04
(BMF96-4)

**Montana Bureau of Mines and Geology
Butte Mine Flooding Monitoring Data
West Camp Ground-Water Sites**

| GWIC ID | Comments |
|---------|--|
| | Date |
| | 07/30/14 WCP pumping rate increased to 170 gpm to maintain the WCP water elevation at approx. 5424.00 (amsl) |
| | 08/27/14 WCP pumping rate 170 gpm. Data from Pioneer. |
| | 09/24/14 9/4/14 pumping increased to 210-220 for STP dewatering. Flow data from Pioneer. |
| | 10/29/14 Flow data from Pioneer records |
| | 11/24/14 Flow data from Pioneer records. Q~180-190 gpm. |
| | 12/22/14 Flow data from Pioneer records. Q~175 gpm. |
| | 01/28/15 Flow data from Pioneer records. Q~170 gpm. |
| | 02/25/15 Flow data from Pioneer records. Q~160 gpm. |
| | 03/25/15 Flow data from Pioneer records. Q~160 gpm. |
| | 04/28/15 Flow data from Pioneer records. Q~140 gpm. STP dewatering completed. |
| | 05/27/15 Flow data from Pioneer records. Q~135-140 gpm. |
| | 06/30/15 Flow data from Pioneer records. Q~140 gpm. |
| | 07/28/15 Flow data from Pioneer records. Q~140 gpm. |
| | 08/25/15 Flow data from Pioneer records. Q~165-175 gpm. |
| | 09/29/15 Flow data from Pioneer records. Q~165-175 gpm. |
| | 10/26/15 Flow data from Pioneer records. Q~165-175 gpm. |
| | 11/24/15 Flow data from Pioneer records. Q~165-175 gpm. |
| | 12/28/15 Flow data from Pioneer records. Q~165-175 gpm. |
| | 01/26/16 Flow data from Pioneer records. Q~140 gpm. |
| | 02/23/16 Flow data from Pioneer records. Q~125 gpm. |
| | 03/29/16 Flow data from Pioneer records. Q~135 gpm. |
| | 04/25/16 Flow data from Pioneer records. Q~129 gpm. |
| | 05/24/16 Flow data from Pioneer records. Q~128 gpm. |
| | 06/28/16 Flow data from Pioneer records. Q~131 gpm. |
| | 07/26/16 Flow data from Pioneer records. Q~141 gpm. |
| | 08/26/16 Flow data from Pioneer records. Q~162 gpm. |
| | 10/03/16 Flow data from Pioneer records. Q~176 gpm. |
| | 10/28/16 Flow data from Pioneer records. Q~174 gpm. |
| | 11/28/16 Flow data from Pioneer records. Q~167 gpm. |
| | 12/28/16 Flow data from Pioneer records. Q~156 gpm. |
| | 01/26/17 Flow data from Pioneer records. Q~148 gpm. |
| | 02/24/17 Flow data from Pioneer records. Q~141 gpm. |
| | 03/27/17 Flow data from Pioneer records. Q~140 gpm. |
| | 04/25/17 Flow data from Pioneer records. Q~138 gpm. |
| | 05/30/17 Flow data from Pioneer records. Q~130 gpm. |
| | 06/26/17 Flow data from Pioneer records. Q~154 gpm. |
| | 07/26/17 Flow data from Pioneer records. Q~262 gpm. |
| | 08/28/17 Flow data from Pioneer records. Q~269 gpm. |
| | 09/27/17 Flow data from Pioneer records. Q~257 gpm. |
| | 10/30/17 Flow data from Pioneer records. Q~234 gpm. |
| | 11/27/17 Flow data from Pioneer records. Q~209 gpm. |
| | 12/28/17 Flow data from Pioneer records. Q~197 gpm. |
| | 01/25/18 Flow data from Pioneer records. Q~190 gpm. |
| | 02/26/18 Flow data from Pioneer records. Q~181 gpm. |
| | 03/26/18 Flow data from Pioneer records. Q~175 gpm. |
| | 04/24/18 Flow data from Pioneer records. Q~175 gpm. |
| | 05/29/18 Flow data from Pioneer records. Q~188 gpm. |
| | 06/26/18 Flow data from Pioneer records. Q~180 gpm. |
| | 07/30/18 Flow data from Pioneer records. Q~222 gpm. |
| | 08/28/18 Flow data from Pioneer records. Q~286 gpm. |
| | 09/27/18 Flow data from Pioneer records. Q~285 gpm. |
| | 10/30/18 Flow data from Pioneer records. Q~264 gpm. |
| | 11/27/18 Flow data from Pioneer records. Q~238 gpm. |
| | 12/27/18 Flow data from Pioneer records. Q~223 gpm. |

MP elevations
changed 7/99
(BMF96-1D)
and 7/04
(BMF96-4)

| DATE (mmddyy) | 4732 | | | | 4725 | | | | 892116 | | | | 4822 | | | | Orphan Boy | | |
|----------------------|-----------------|--------------|--------------|------------------|------------------------|--------------|--------------|------------------|------------------------------|--------------|--------------|------------------|-------------------------------------|--------------|--------------|------------------|----------------------------|--------------|------------------|
| | MAS SWL (ft) | Elev (ft) | Diff (ft) | Yearly Change | MAS S-4 SWL (ft) | Elev (ft) | Diff (ft) | Yearly Change | S-4 Tech Well SWL (ft) | Elev (ft) | Diff (ft) | Yearly Change | Tech Well Orphan Boy SWL (ft) | Elev (ft) | Diff (ft) | Yearly Change | Orphan Boy Elev (ft) | Diff (ft) | Yearly Change |
| | | 6304.00 | | | | 6290 | | | | 5650.00 | 5651.86 | | | | 5689.66 | 5691.25 | | | |
| 01/22/16 | 79.80 | 6224.20 | -0.20 | | 61.57 | 6228.43 | -0.60 | | 73.89 | 5577.97 | -0.50 | | 109.32 | 5581.93 | -0.33 | | | | |
| 02/24/16 | 80.36 | 6223.64 | -0.56 | | 61.80 | 6228.20 | -0.23 | | 73.93 | 5577.93 | -0.04 | | 109.42 | 5581.83 | -0.10 | | | | |
| 03/28/16 | 80.25 | 6223.75 | 0.11 | | 61.95 | 6228.05 | -0.15 | | 73.62 | 5578.24 | 0.31 | | 109.16 | 5582.09 | 0.26 | | | | |
| 04/26/16 | 79.91 | 6224.09 | 0.34 | | 61.68 | 6228.32 | 0.27 | | 73.47 | 5578.39 | 0.15 | | 108.95 | 5582.30 | 0.21 | | | | |
| 05/23/16 | 79.74 | 6224.26 | 0.17 | | 61.07 | 6228.93 | 0.61 | | 73.24 | 5578.62 | 0.23 | | 108.82 | 5582.43 | 0.13 | | | | |
| 06/28/16 | 79.55 | 6224.45 | 0.19 | | 60.58 | 6229.42 | 0.49 | | 72.82 | 5579.04 | 0.42 | | 108.63 | 5582.62 | 0.19 | | | | |
| 07/27/16 | 79.51 | 6224.49 | 0.04 | | 60.33 | 6229.67 | 0.25 | | 72.71 | 5579.15 | 0.11 | | 108.64 | 5582.61 | -0.01 | | | | |
| 08/29/16 | 79.36 | 6224.64 | 0.15 | | 59.94 | 6230.06 | 0.39 | | 72.39 | 5579.47 | 0.32 | | 108.68 | 5582.57 | -0.04 | | | | |
| 09/30/16 | 79.33 | 6224.67 | 0.03 | | 59.69 | 6230.31 | 0.25 | | 72.41 | 5579.45 | -0.02 | | 108.63 | 5582.62 | 0.05 | | | | |
| 10/28/16 | 79.37 | 6224.63 | -0.04 | | 59.56 | 6230.44 | 0.13 | | 72.31 | 5579.55 | 0.10 | | 108.72 | 5582.53 | -0.09 | | | | |
| 11/28/16 | 79.26 | 6224.74 | 0.11 | | 59.41 | 6230.59 | 0.15 | | 72.13 | 5579.73 | 0.18 | | 108.62 | 5582.63 | 0.10 | | | | |
| 12/27/16 | 79.64 | 6224.36 | -0.38 | | 59.73 | 6230.27 | -0.32 | | 72.68 | 5579.18 | -0.55 | | 108.84 | 5582.41 | -0.22 | | | | |
| Yearly Change | | | -0.04 | | | | | 1.24 | | | | | 0.71 | | | | 0.15 | | |
| 01/30/17 | 79.84 | 6224.16 | -0.20 | | 59.87 | 6230.13 | -0.14 | | 73.05 | 5578.81 | -0.37 | | 109.09 | 5582.16 | -0.25 | | | | |
| 02/24/17 | 79.95 | 6224.05 | -0.11 | | 60.07 | 6229.93 | -0.20 | | 73.71 | 5578.15 | -0.66 | | 109.24 | 5582.01 | -0.15 | | | | |
| 03/30/17 | 79.43 | 6224.57 | 0.52 | | 59.32 | 6230.68 | 0.75 | | 73.46 | 5578.40 | 0.25 | | 108.95 | 5582.30 | 0.29 | | | | |
| 04/25/17 | 78.81 | 6225.19 | 0.62 | | 59.24 | 6230.76 | 0.08 | | 73.37 | 5578.49 | 0.09 | | 108.72 | 5582.53 | 0.23 | | | | |
| 05/25/17 | 78.47 | 6225.53 | 0.34 | | 59.26 | 6230.74 | -0.02 | | 72.63 | 5579.23 | 0.74 | | 108.29 | 5582.96 | 0.43 | | | | |
| 06/26/17 | 77.33 | 6226.67 | 1.14 | | 58.98 | 6231.02 | 0.28 | | 71.22 | 5580.64 | 1.41 | | 106.98 | 5584.27 | 1.31 | | | | |
| 07/26/17 | 77.12 | 6226.88 | 0.21 | | 57.64 | 6232.36 | 1.34 | | 73.53 | 5578.33 | -2.31 | | 105.39 | 5585.86 | 1.59 | | | | |
| 08/28/17 | 76.78 | 6227.22 | 0.34 | | 56.15 | 6233.85 | 1.49 | | 72.96 | 5578.90 | 0.57 | | 104.94 | 5586.31 | 0.45 | | | | |
| 09/26/17 | 76.69 | 6227.31 | 0.09 | | 55.44 | 6234.56 | 0.71 | | 72.91 | 5578.95 | 0.05 | | 105.02 | 5586.23 | -0.08 | | | | |
| 10/31/17 | 76.52 | 6227.48 | 0.17 | | 54.78 | 6235.22 | 0.66 | | 72.98 | 5578.88 | -0.07 | | 105.21 | 5586.04 | -0.19 | | | | |
| 11/30/17 | 76.66 | 6227.34 | -0.14 | | 54.88 | 6235.12 | -0.10 | | 73.01 | 5578.85 | -0.03 | | 105.32 | 5585.93 | -0.11 | | | | |
| 12/27/17 | 76.67 | 6227.33 | -0.01 | | 54.97 | 6235.03 | -0.09 | | 73.36 | 5578.50 | -0.35 | | 105.75 | 5585.50 | -0.43 | | | | |
| Yearly Change | | | 2.97 | | | | | 4.76 | | | | | -0.68 | | | 3.09 | | | |
| 01/25/18 | 76.93 | 6227.07 | -0.26 | | 55.39 | 6234.61 | -0.42 | | 73.79 | 5578.07 | -0.43 | | 105.94 | 5585.31 | -0.19 | | | | |
| 02/27/18 | 77.04 | 6226.96 | -0.11 | | 55.60 | 6234.40 | -0.21 | | 73.93 | 5577.93 | -0.14 | | 106.46 | 5584.79 | -0.52 | | | | |
| 03/26/18 | NR | | | | NR | | | | 73.95 | 5577.91 | -0.02 | | 106.51 | 5584.74 | -0.05 | | | | |
| 04/24/18 | 76.93 | 6227.07 | 0.11 | | 55.51 | 6234.49 | 0.09 | | 72.60 | 5579.26 | 1.35 | | 105.37 | 5585.88 | 1.14 | | | | |
| 05/29/18 | 71.47 | 6232.53 | 5.46 | | 51.08 | 6238.92 | 4.43 | | 70.82 | 5581.04 | 1.78 | | 103.81 | 5587.44 | 1.56 | | | | |
| 06/26/18 | 67.91 | 6236.09 | 3.56 | | 48.87 | 6241.13 | 2.21 | | 69.52 | 5582.34 | 1.30 | | 102.57 | 5588.68 | 1.24 | | | | |
| 07/30/18 | 64.64 | 6239.36 | 3.27 | | 44.69 | 6245.31 | 4.18 | | 68.05 | 5583.81 | 1.47 | | 101.09 | 5590.16 | 1.48 | | | | |
| 08/28/18 | 64.39 | 6239.61 | 0.25 | | 42.76 | 6247.24 | 1.93 | | 69.22 | 5582.64 | -1.17 | | 102.67 | 5588.58 | -1.58 | | | | |
| 09/27/18 | 65.14 | 6238.86 | -0.75 | | 42.47 | 6247.53 | 0.29 | | 70.49 | 5581.37 | -1.27 | | 104.37 | 5586.88 | -1.70 | | | | |
| 10/29/18 | 66.11 | 6237.89 | -0.97 | | 42.97 | 6247.03 | -0.50 | | 70.18 | 5581.68 | 0.31 | | 103.64 | 5587.61 | 0.73 | | | | |
| 11/27/18 | 66.99 | 6237.01 | -0.88 | | 43.61 | 6246.39 | -0.64 | | 71.43 | 5580.43 | -1.25 | | 105.42 | 5585.83 | -1.78 | | | | |
| 12/26/18 | 67.87 | 6236.13 | -0.88 | | 44.48 | 6245.52 | -0.87 | | 70.51 | 5581.35 | 0.92 | | 103.91 | 5587.34 | 1.51 | | | | |
| Yearly Change | | | 8.80 | | | | | 10.49 | | | | | 2.85 | | | 1.84 | | | |

Orphan Boy Mine elevation changed following February 2005 survey, due to installation of casing into mine shaft for monitoring purposes.

Montana Bureau of Mines and Geology
Horseshoe Bend Drainage
Water Quality Data

01/08/19

Horseshoe Bend Drainage

M#:125744

| Collector/ Lab Analysis | PHYSICAL PARAMETERS | | | | | | | | DISSOLVED CONCENTRATION | | | | | | | | | | DISSOLVED CONCENTRATION | | | | | | |
|----------------------------|---------------------|---------------|--------------------|---------|-------|------|---------|--------|-------------------------|----------|------------|--------|--------|--------|--------|--------|--------|------------------|-------------------------|-----------------|--------|-----------------|--------------------|--------------------|--------|
| | Date (mm/dd/yy) | Time (HRS) | Discharge (gpm) | pH | SC | Temp | Eh | pH | SC | Hardness | Alkalinity | Ca | Mg | Na | K | Fe | Mn | SiO ₂ | HCO ₃ | CO ₃ | Cl | SO ₄ | NO ₂ -N | NO ₃ -N | F |
| | | | | (uMHOS) | (C) | (MV) | (uMHOS) | (mg/l) | (mg/l) | (mg/l) | (mg/l) | (mg/l) | (mg/l) | (mg/l) | (mg/l) | (mg/l) | (mg/l) | (mg/l) | (mg/l) | (mg/l) | (mg/l) | (mg/l) | (mg/l) | (mg/l) | (mg/l) |
| MBMG | 01/11/16 | 15:12 | 3,475 | 3.59 | 5,550 | 6.3 | 578 | 3.34 | 7,320 | 2,508 | 0.0 | 439 | 343 | 76 | 9.9 | 215 | 275 | 90.7 | 0.0 | 0.0 | 13.3 | 5,036 | <0.05 | <0.05 | 19.67 |
| MBMG | 02/04/16 | 13:28 | 3,475 | 3.73 | 5,665 | 7.5 | 563 | 3.19 | 7,210 | 2,576 | 0.0 | 450 | 353 | 75 | 8.9 | 321 | 130 | 76.8 | 0.0 | 0.0 | 13.2 | 4,963 | <0.05 | <0.05 | 18.98 |
| MBMG | 03/04/16 | 15:06 | 3,300 | 3.44 | 5,055 | 14.1 | 617 | 3.35 | 5,560 | 2,308 | 0.0 | 457 | 284 | 82 | 12.5 | 146 | 104 | 77.7 | 0.0 | 0.0 | 13.5 | 4,141 | <0.05 | <0.05 | 15.02 |
| MBMG | 04/29/16 | 14:00 | 3,132 | 2.97 | 6,695 | 13.7 | 573 | 2.97 | 6,960 | 2,900 | 0.0 | 446 | 434 | 74 | 7.9 | 346 | 129 | 85.6 | 0.0 | 0.0 | 13.3 | 5,820 | <0.05 | <0.05 | 24.23 |
| MBMG | 05/12/16 | 11:35 | 3,560 | 3.70 | 7,235 | 12.3 | 580 | 3.05 | 7,450 | 2,836 | 0.0 | 401 | 446 | 61 | 4.9 | 436 | 131 | 85.5 | 0.0 | 0.0 | 13.6 | 6,638 | <0.05 | <0.05 | 27.24 |
| MBMG | 06/03/16 | 15:30 | 2,800 | 3.35 | 5,395 | 22.9 | 612 | 3.31 | 5,930 | 2,277 | 0.0 | 428 | 293 | 73 | 10.9 | 229 | 121 | 80.5 | 0.0 | 0.0 | 13.5 | 4,714 | <0.05 | <0.05 | 17.64 |
| MBMG | 07/14/16 | 14:55 | 3,130 | 3.23 | 5,290 | 21.4 | 612 | 3.22 | 5,680 | 2,344 | 0.0 | 454 | 294 | 77 | 10.2 | 211 | 106 | 71.6 | 0.0 | 0.0 | 14.3 | 4,624 | <0.05 | <0.05 | 19.51 |
| MBMG | 08/03/16 | 10:15 | 2,883 | 3.10 | 5,600 | 14.7 | 619 | 3.22 | 5,960 | 2,471 | 0.0 | 450 | 327 | 81 | 9.8 | 266 | 117 | 77.4 | 0.0 | 0.0 | 14.6 | 5,035 | <0.05 | 0.33 | 21.86 |
| MBMG | 09/16/16 | 14:45 | 3,826 | 3.22 | 6,690 | 14.2 | 606 | 3.13 | 7,160 | 2,838 | 0.0 | 425 | 431 | 75 | 6.7 | 383 | 130 | 90.3 | 0.0 | 0.0 | 14.8 | 6,437 | <0.05 | <0.05 | 25.82 |
| MBMG | 10/10/16 | 14:35 | 3,737 | 3.28 | 5,905 | 12.1 | 604 | 3.12 | 6,450 | 2,566 | 0.0 | 435 | 360 | 74 | 8.4 | 276 | 114 | 81.5 | 0.0 | 0.0 | 14.3 | 5,352 | <0.05 | <0.05 | 22.67 |
| MBMG | 11/04/16 | 15:00 | 3,215 | 3.10 | 4,990 | 13.8 | 575 | 3.28 | 5,340 | 2,429 | 0.0 | 463 | 309 | 80 | 11.1 | 194 | 104 | 79.9 | 0.0 | 0.0 | 15.0 | 4,578 | <0.05 | 0.31 | 17.96 |
| MBMG | 12/02/16 | 11:13 | 4,190 | 3.31 | 6,715 | 6.7 | 583 | 3.19 | 7,040 | 2,866 | 0.0 | 425 | 438 | 67 | 6.2 | 520 | 151 | 92.8 | 0.0 | 0.0 | 14.0 | 6,163 | <0.05 | <0.05 | 28.30 |
| MBMG | 01/11/17 | 10:58 | 3,475 | 3.55 | 5,950 | 3.2 | 551 | 3.66 | 6,270 | 2,702 | 0.0 | 432 | 394 | 78 | 6.5 | 385 | 121 | 84.1 | 0.0 | 0.0 | 13.8 | 5,565 | <0.05 | <0.05 | 27.73 |
| MBMG | 01/30/17 | 12:25 | 3,826 | 3.34 | 5,970 | 7.2 | 577 | 3.23 | 6,580 | 2,720 | 0.0 | 420 | 406 | 70 | 5.9 | 448 | 126 | 94.5 | 0.0 | 0.0 | 13.9 | 5,888 | <0.05 | <0.05 | 30.05 |
| MBMG | 02/28/17 | 15:11 | 5,148 | 3.15 | 6,570 | 6.7 | 605 | 3.26 | 7,300 | 2,986 | 0.0 | 436 | 461 | 70 | 5.9 | 402 | 133 | 90.3 | 0.0 | 0.0 | 16.5 | 6,339 | <0.05 | 0.30 | 26.50 |
| MBMG | 03/30/17 | 11:57 | 3,216 | 2.94 | 6,020 | 11.6 | 625 | 3.14 | 7,230 | 2,857 | 0.0 | 432 | 423 | 72 | 6.3 | 384 | 144 | 89.5 | 0.0 | 0.0 | 14.1 | 5,961 | <0.05 | <0.05 | 29.60 |
| MBMG | 04/27/17 | 13:02 | 3,826 | 3.18 | 6,410 | 10.4 | 616 | 3.17 | 6,940 | 2,838 | 0.0 | 426 | 431 | 70 | 5.2 | 365 | 133 | 101.6 | 0.0 | 0.0 | 14.0 | 6,059 | <0.05 | <0.05 | 29.54 |
| MBMG | 06/02/17 | 10:27 | 3,915 | 2.43 | 6,090 | 15.4 | 604 | 3.10 | 5,990 | 2,610 | 0.0 | 425 | 376 | 68 | 6.2 | 339 | 121 | 94.6 | 0.0 | 0.0 | 12.2 | 5,290 | <0.05 | 0.26 | 10.35 |
| MBMG | 06/29/17 | 10:04 | 3,300 | 3.06 | 5,715 | 14.6 | 591 | 3.06 | 5,790 | 2,519 | 0.0 | 445 | 342 | 76 | 8.1 | 299 | 115 | 77.6 | 0.0 | 0.0 | 12.2 | 4,848 | <0.05 | 0.28 | 10.04 |
| MBMG | 07/27/17 | 13:31 | 3,740 | 3.23 | 6,185 | 17.6 | 588 | 3.03 | 6,000 | 2,765 | 0.0 | 458 | 394 | 76 | 6.2 | 333 | 120 | 94.5 | 0.0 | 0.0 | 13.6 | 5,598 | <0.05 | <0.05 | 23.75 |
| MBMG | 08/30/17 | 14:23 | 3,740 | 3.39 | 6,070 | 17.7 | 562 | 3.20 | 6,105 | 2,609 | 0.0 | 433 | 371 | 72 | 6.8 | 340 | 120 | 89.2 | 0.0 | 0.0 | 13.7 | 5,369 | <0.05 | <0.05 | 23.41 |
| MBMG | 09/28/17 | 10:14 | 3,720 | 3.67 | 6,255 | 9.9 | 577 | 3.05 | 6,240 | 2,554 | 0.0 | 408 | 376 | 73 | 5.4 | 349 | 118 | 88.9 | 0.0 | 0.0 | 16.0 | 5,831 | <0.05 | <0.05 | 21.71 |
| MBMG | 10/31/17 | 13:46 | 4,007 | 4.07 | 6,445 | 6.9 | 550 | 3.14 | 6,425 | 2,742 | 0.0 | 432 | 404 | 73 | 5.7 | 371 | 122 | 91.7 | 0.0 | 0.0 | 12.9 | 5,900 | <0.05 | <0.05 | 13.47 |
| MBMG | 11/28/17 | 10:58 | 3,387 | 4.34 | 6,450 | 3.1 | 531 | 3.11 | 6,430 | 2,734 | 0.0 | 440 | 397 | 74 | 5.7 | 354 | 117 | 87.4 | 0.0 | 0.0 | 13.5 | 5,836 | <0.05 | <0.05 | 21.52 |
| MBMG | 12/28/17 | 14:50 | 2,256 | 2.88 | 6,380 | 3.1 | 600 | 3.08 | 6,380 | 2,679 | 0.0 | 433 | 388 | 74 | 6.0 | 340 | 116 | 85.8 | 0.0 | 0.0 | 13.6 | 5,913 | <0.05 | <0.05 | 21.11 |
| MBMG | 01/26/18 | 14:50 | 3,215 | 3.04 | 4,220 | 6.2 | 586 | 3.30 | 5,675 | 2,381 | 0.0 | 439 | 312 | 75 | 9.1 | 268 | 111 | 82.0 | 0.0 | 0.0 | 13.5 | 5,053 | <0.05 | <0.05 | 16.47 |
| MBMG | 02/28/18 | 11:37 | 2,965 | 3.30 | 5,700 | 5.1 | 553 | 3.45 | 5,820 | 2,506 | 0.0 | 446 | 338 | 79 | 8.3 | 291 | 106 | 79.1 | 0.0 | 0.0 | 16.6 | 4,923 | <0.05 | <0.05 | 23.07 |
| MBMG | 03/27/18 | 10:54 | 2,885 | 2.89 | 5,300 | 7.8 | 608 | 3.10 | 5,620 | 2,306 | 0.0 | 434 | 297 | 76 | 9.4 | 250 | 104 | 78.3 | 0.0 | 0.0 | 13.5 | 4,906 | <0.05 | 0.25 | 15.54 |
| MBMG | 04/25/18 | 14:54 | 2,500 | 2.96 | 5,525 | 15.1 | 609 | 3.12 | 5,620 | 2,350 | 0.0 | 447 | 600 | 77 | 10.4 | 264 | 105 | 76.1 | 0.0 | 0.0 | 13.3 | 4,621 | <0.05 | <0.05 | 18.90 |
| MBMG | 05/30/18 | 12:43 | 2,965 | 2.17 | 6,015 | 15.0 | 664 | 3.13 | 6,160 | 2,411 | 0.0 | 415 | 334 | 69 | 7.1 | 286 | 110 | 83.9 | 0.0 | 0.0 | 13.7 | 5,402 | <0.05 | <0.05 | 24.73 |
| MBMG | 06/27/18 | 15:21 | 3,040 | 3.16 | 5,225 | 19.9 | 608 | 3.05 | 6,190 | 2,507 | 0.0 | 444 | 340 | 80 | 8.4 | 304 | 113 | 80.7 | 0.0 | 0.0 | 15.6 | 5,315 | <0.05 | 0.25 | 17.10 |
| MBMG | 07/31/18 | 15:22 | 3,125 | 3.62 | 4,960 | 17.9 | 562 | 3.16 | 5,970 | 2,429 | 0.0 | 443 | 321 | 78 | 9.3 | 292 | 109 | 80.6 | 0.0 | 0.0 | 13.5 | 4,771 | <0.05 | <0.05 | 20.32 |
| MBMG | 08/29/18 | 13:40 | 2,350 | 3.61 | 5,450 | 14.7 | 558 | 3.21 | 5,810 | 2,202 | 0.0 | 415 | 283 | 72 | 8.4 | 263 | 97 | 76.5 | 0.0 | 0.0 | 14.7 | 5,004 | <0.05 | 0.27 | 16.59 |
| MBMG | 09/26/18 | 15:53 | 3,044 | 2.80 | 5,335 | 14.8 | 585 | 3.13 | 6,280 | 2,327 | 0.0 | 414 | 314 | 72 | 7.8 | 279 | 108 | 85.0 | 0.0 | 0.0 | 14.9 | 5,343 | <0.05 | 0.12 | 19.47 |
| MBMG | 10/31/18 | 11:17 | 2,205 | 3.36 | 2,865 | 7.3 | 590 | 3.21 | 5,430 | 2,332 | 0.0 | 427 | 307 | 73 | 8.8 | 259 | 105 | 78.3 | 0.0 | 0.0 | 15.8 | 5,011 | <0.05 | <0.05 | 17.55 |
| MBMG | 11/28/18 | 14:15 | 2,805 | 3.49 | 3,690 | 8.1 | 571 | 3.07 | 5,670 | 2,553 | 0.0 | 445 | 351 | 70 | 5.1 | 291 | 112 | 80.2 | 0.0 | 0.0 | 13.8 | 5,125 | <0.05 | <0.05 | 21.43 |
| Mean Value | | | 2,834 | 3.27 | 5,316 | 11.6 | 550 | 3.02 | 5,838 | 2,503 | 0 | 444 | 339 | 78 | 9.1 | 311 | 123 | 78 | 0.0 | 0.0 | 15.51 | 5,495 | 1.6 | 0.3 | 17.04 |
| Maximum Value | | | 6,350 | 5.65 | 9,010 | 22.9 | 821 | 3.96 | 11,540 | 3,763 | 15 | 555 | 655 | 100 | 13.0 | 937 | 361 | 102 | 0.0 | 0.0 | 33.60 | 13,453 | 9.8 | 0.5 | 48.61 |
| Minimum Value | | | 820 | 1.52 | 1,523 | 2.2 | 286 | 2.14 | 3,920 | 1,882 | 0 | 395 | 106 | 61 | 1.5 | 97 | 77 | 56 | 0.0 | 0.0 | 8.69 | 3,010 | 0.2 | 0.1 | 1.24 |
| Number Readings | | | 232 | 229 | 233 | 232 | 226 | 231 | 230 | 236 | 234 | 237 | 237 | 237 | 236 | 237 | 237 | 229 | 229 | 229 | 165 | 229 | 19 | 45 | 222 |

nd/na - not measured or analyzed

Montana Bureau of Mines and Geology
Horseshoe Bend Drainage
Water Quality Data

01/08/19

Horseshoe Bend Drainage

M#125744

DISSOLVED CONCENTRATION

| Collector/ Lab Analysis | Date (mm/dd/yy) | Al (ug/l) | Ag (ug/l) | As (ug/l) | B (ug/l) | Be (ug/l) | Cd (ug/l) | Cr (ug/l) | Co (ug/l) | Cu (ug/l) | Hg (ug/L) | Li (ug/l) | Mo (ug/l) | Ni (ug/l) | Pb (ug/l) | Se (ug/l) | Sr (ug/l) | Ti (ug/l) | Tl (ug/l) | U (ug/l) | V (ug/l) | Zn (ug/l) | Zr (ug/l) |
|----------------------------|--------------------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|--------------|--------------|
| MBMG | 01/11/16 | 229,325 | <1.0 | 3.0 | 7.5 | 23.7 | 932 | 20.4 | 818 | 36,937 | 85.4 | 4.07 | 577 | 2.3 | 9.29 | 896 | <1.0 | 288 | <1.0 | 294,374 | <1.0 | | |
| MBMG | 02/04/16 | 247,269 | 2.17 | 2.9 | 61.8 | 32.5 | 1,227 | 35.7 | 977 | 33,807 | 150.7 | 22.84 | 692 | 3.7 | <1.0 | 956 | <1.0 | 377 | 3.10 | 272,108 | <1.0 | | |
| MBMG | 03/04/16 | 149,709 | <1.0 | 6.2 | 53.8 | 20.9 | 1,074 | 13.2 | 680 | 64,205 | 126.2 | 10.48 | 491 | 2.7 | 7.77 | 1,015 | 54.9 | <1.0 | 232 | 7.03 | 207,512 | <1.0 | |
| MBMG | 04/29/16 | 292,250 | <1.0 | 2.1 | 131.6 | 29.1 | 950 | 33.8 | 1,002 | 34,869 | 121.0 | 2.22 | 699 | 2.8 | 8.92 | 774 | <1.0 | 345 | <1.0 | 280,872 | <1.0 | | |
| MBMG | 05/12/16 | 342,812 | <1.0 | 12.1 | 85.0 | 25.4 | 943 | 42.7 | 1,033 | 28,454 | 99.5 | 4.62 | 757 | <0.6 | 8.00 | 599 | <1.0 | 414 | 29.75 | 295,242 | <1.0 | | |
| MBMG | 06/03/16 | 219,153 | <1.0 | <1.0 | 132.2 | 22.2 | 1,066 | 19.5 | 840 | 53,246 | 107.5 | <1.0 | 576 | <0.6 | 5.62 | 958 | <1.0 | 295 | <1.0 | 250,010 | <1.0 | | |
| MBMG | 07/14/16 | 186,248 | <1.0 | 3.3 | 6.4 | 21.5 | 958 | 15.4 | 746 | 54,518 | 91.3 | 3.75 | 494 | 2.2 | 7.74 | 926 | 52.1 | <1.0 | 248 | 3.56 | 222,039 | <1.0 | |
| MBMG | 08/03/16 | 214,081 | <1.0 | 3.3 | 210.4 | 24.3 | 900 | 18.8 | 812 | 40,139 | 105.1 | 8.00 | 568 | 3.8 | 7.63 | 849 | 67.8 | <1.0 | 270 | 2.26 | 243,701 | <1.0 | |
| MBMG | 09/16/16 | 313,281 | <1.0 | 7.5 | 249.7 | 28.6 | 809 | 34.0 | 1,004 | 40,872 | 113.5 | <1.0 | 687 | <0.6 | 11.57 | 631 | 96.9 | <1.0 | 341 | 11.30 | 290,837 | <1.0 | |
| MBMG | 10/10/16 | 251,774 | <1.0 | 5.2 | 173.2 | 25.4 | 812 | 24.5 | 830 | 48,409 | 98.7 | <1.0 | 579 | <0.6 | 7.68 | 737 | 96.9 | <1.0 | 275 | 9.44 | 238,568 | <1.0 | |
| MBMG | 11/04/16 | 179,503 | <1.0 | 5.8 | 151.1 | 15.7 | 808 | 14.3 | 699 | 55,258 | 74.6 | 2.19 | 484 | <0.6 | 7.08 | 870 | 76.8 | <1.0 | 211 | 8.82 | 220,503 | <1.0 | |
| MBMG | 12/02/16 | 377,879 | <1.0 | 5.8 | 227.3 | 40.5 | 1,073 | 43.9 | 1,186 | 33,010 | 186.5 | 2.25 | 842 | <0.6 | 14.45 | 708 | 72.8 | <1.0 | 480 | 12.83 | 332,642 | <1.0 | |
| MBMG | 01/11/17 | 278,084 | 2.01 | 2.7 | 18.4 | 28.4 | 754 | 30.8 | 930 | 14,661 | 141.1 | 15.9 | 698 | <0.6 | 12.35 | 688 | 111.8 | 3.86 | 320 | <1.0 | 265,585 | <1.0 | |
| MBMG | 01/30/17 | 306,250 | <1.0 | <1.0 | 13.9 | 29.3 | 758 | 27.3 | 962 | 17,234 | 140.5 | <1.0 | 687 | <0.6 | <1.0 | 629 | 93.9 | <1.0 | 315 | 2.95 | 276,550 | <1.0 | |
| MBMG | 02/28/17 | 336,655 | 2.48 | 8.1 | 199.5 | 36.3 | 975 | 43.9 | 1,061 | 39,569 | 144.5 | 2.49 | 759 | <0.6 | 10.51 | 625 | 81.7 | <1.0 | 403 | 25.83 | 288,727 | <1.0 | |
| MBMG | 03/30/17 | 343,268 | <1.0 | 10.6 | 146.6 | 29.9 | 1,086 | 43.3 | 1,072 | 46,396 | 129.4 | 2.94 | 780 | 2.1 | 14.68 | 696 | 72.4 | <1.0 | 402 | 28.30 | 305,803 | <1.0 | |
| MBMG | 04/27/17 | 319,160 | 26.98 | 8.7 | 197.2 | 37.1 | 1,060 | 44.4 | 1,045 | 44,099 | 158.4 | 18.58 | 761 | 2.3 | 12.58 | 642 | 68.3 | 9.37 | 404 | 27.73 | 286,735 | <1.0 | |
| MBMG | 06/02/17 | 271,375 | <1.0 | 2.8 | 351.5 | 23.4 | 844 | 25.3 | 912 | 23,161 | 107.9 | <1.0 | 661 | <0.6 | 8.55 | 656 | 82.6 | <1.0 | 330 | <1.0 | 257,400 | <1.0 | |
| MBMG | 06/29/17 | 239,575 | <1.0 | 2.1 | 27.7 | 24.6 | 811 | 22.9 | 826 | 20,599 | 51.9 | <1.0 | 580 | <0.6 | 7.84 | 821 | 98.6 | <1.0 | 277 | <1.0 | 235,300 | <1.0 | |
| MBMG | 07/27/17 | 281,550 | 12.04 | 4.1 | 18.8 | 33.1 | 866 | 30.6 | 891 | 21,640 | 134.1 | 2.02 | 647 | <0.6 | 9.68 | 681 | 99.6 | <1.0 | 323 | <1.0 | 254,000 | <1.0 | |
| MBMG | 08/30/17 | 264,000 | 19.48 | 3.1 | 16.6 | 29.7 | 799 | 30.4 | 865 | 15,704 | 100.0 | 3.23 | 631 | 0.7 | 10.61 | 732 | 107.9 | <1.0 | 285 | <1.0 | 251,350 | 2.3 | |
| MBMG | 09/28/17 | 287,700 | 2.98 | 3.3 | 263.7 | 36.6 | 897 | 40.3 | 958 | 21,986 | 144.0 | 3.00 | 674 | <0.6 | 10.58 | 657 | 126.7 | <1.0 | 437 | 2.95 | 250,400 | <1.0 | |
| MBMG | 10/31/17 | 299,400 | 2.57 | 5.3 | 355.7 | 33.0 | 868 | 39.7 | 926 | 24,576 | 142.3 | 4.37 | 666 | 4.1 | 12.02 | 624 | 101.0 | <1.0 | 392 | 11.84 | 258,300 | 22.17 | |
| MBMG | 11/28/17 | 290,250 | 2.37 | 5.2 | 319.0 | 35.8 | 972 | 46.2 | 960 | 26,925 | 143.9 | 9.88 | 688 | 2.3 | 13.45 | 681 | 121.4 | <1.0 | 376 | 7.75 | 249,150 | 5.12 | |
| MBMG | 12/28/17 | 283,850 | <1.0 | 8.1 | 314.2 | 35.6 | 973 | 56.1 | 972 | 22,608 | 155.5 | 4.51 | 656 | <0.6 | 13.67 | 676 | 117.7 | <1.0 | 409 | 16.78 | 242,150 | <1.0 | |
| MBMG | 01/26/18 | 225,000 | <1.0 | 3.1 | 208.9 | 23.8 | 788 | 22.8 | 732 | 29,729 | 116.3 | 11.72 | 537 | 2.7 | 8.68 | 806 | 81.4 | <1.0 | 249 | 5.98 | 218,300 | 3.02 | |
| MBMG | 02/28/18 | 225,250 | <1.0 | <1.0 | 254.0 | 24.5 | 724 | 24.4 | 728 | 17,047 | 102.7 | 4.99 | 534 | <0.6 | 8.41 | 731 | 72.5 | <1.0 | 259 | <1.0 | 215,800 | 1.34 | |
| MBMG | 03/27/18 | 187,039 | <1.0 | 1.4 | 230.4 | 21.1 | 759 | 23.2 | 724 | 20,589 | 100.7 | 6.48 | 511 | 2.4 | 7.83 | 836 | 62.0 | <1.0 | 237 | <1.0 | 206,400 | 2.53 | |
| MBMG | 04/25/18 | 202,150 | <1.0 | 3.3 | 24.9 | 23.1 | 819 | 20.4 | 737 | 20,954 | 101.0 | 3.49 | 529 | 3.9 | 10.28 | 912 | 61.8 | <1.0 | 261 | <1.0 | 209,800 | <1.0 | |
| MBMG | 05/30/18 | 245,350 | <1.0 | 3.3 | 10.1 | 24.9 | 738 | 29.4 | 792 | 20,405 | 127.8 | 2.59 | 602 | <0.6 | 8.67 | 718 | 60.3 | <1.0 | 299 | <1.0 | 226,600 | <1.0 | |
| MBMG | 06/27/18 | 251,100 | 2.75 | 4.1 | 38.0 | 26.5 | 787 | 38.4 | 830 | 23,875 | <100 | 8.12 | 612 | 2.6 | 10.07 | 770 | 48.1 | <1.0 | 259 | <1.0 | 231,850 | 3.78 | |
| MBMG | 07/31/18 | 226,850 | <1.0 | 2.0 | 20.1 | 23.4 | 812 | 32.1 | 775 | 17,444 | 104.0 | <1.0 | 557 | 1.4 | 6.37 | 881 | 121.7 | <1.0 | 266 | <1.0 | 219,150 | <1.0 | |
| MBMG | 08/29/18 | 194,050 | <1.0 | <1.0 | 280.6 | 23.4 | 811 | 24.6 | 699 | 12,606 | 107.5 | 2.37 | 525 | <0.6 | 9.14 | 824 | 68.5 | <1.0 | 251 | <1.0 | 192,550 | <1.0 | |
| MBMG | 09/26/18 | 231,200 | <1.0 | <1.0 | 254.7 | 25.5 | 787 | 32.4 | 730 | 17,916 | 110.8 | 2.31 | 557 | <0.6 | 9.24 | 732 | 63.8 | <1.0 | 272 | <1.0 | 213,900 | <1.0 | |
| MBMG | 10/31/18 | 218,850 | <1.0 | <1.0 | 295.8 | 28.8 | 855 | 35.3 | 763 | 22,376 | <0.005 | 137.7 | 2.96 | 589 | 3.3 | 8.94 | 776 | 59.3 | <1.0 | 241 | <1.0 | 211,800 | <1.0 |
| MBMG | 11/28/18 | 236,050 | <1.0 | 2.6 | 56.3 | 33.2 | 931 | 46.2 | 765 | 22,222 | 146.2 | 13.34 | 595 | 2.5 | 12.18 | 777 | 65.9 | <1.0 | 274 | <1.0 | 225,650 | 3.86 | |
| Mean Value | | 226,845 | 7 | 12.7 | 106 | 27.0 | 1,205 | 36.8 | 838 | 40,043 | 131 | 6 | 591 | 4.8 | 17 | 1,005 | 55.9 | 3.25 | 329 | 11.6 | 260,538 | 9 | |
| Maximum Valu | | 657,448 | 27 | 66.5 | 513 | 52.9 | 2,151 | 153.5 | 1,429 | 101,000 | 703 | 23 | 1,165 | 59.1 | 148 | 1,327 | 157 | 13.20 | 664 | 70.1 | 434,103 | 23 | |
| Minimum Valu | | 92,344 | 1 | 0.9 | 1 | 11.7 | 595 | 10.6 | 340 | 10,485 | 7 | 1 | 148 | 0.6 | 2 | 587 | 1.3 | 0.23 | 105 | 0.8 | 148,000 | 1.0 | |
| Number Readin | | 233 | 23 | 158 | 133 | 209 | 239 | 179 | 239 | 239 | 233 | 45 | 237 | 85 | 163 | 234 | 123 | 9 | 219 | 90 | 239 | 19 | |

nd/na - not measured or analyz

Montana Bureau of Mines and Geology

Horseshoe Bend Drainage

Monthly Flow Statistics

| | Jan-14 | Feb-14 | Mar-14 | Apr-14 | May-14 | Jun-14 | Jul-14 | Aug-14 | Sep-14 | Oct-14 | Nov-14 | Dec-14 |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|--------|
| Mean (gpm) | 3,218 | 2,645 | 3,499 | 3,169 | 2,895 | 2,673 | 2,936 | 3,488 | 3,045 | 3,367 | 2,925 | 3,467 |
| Min (gpm) | 2,373 | 1,774 | 2,959 | 2,634 | 2,131 | 2,063 | 2,381 | 2,757 | 2,435 | 2,591 | 2,412 | 3,310 |
| Max (gpm) | 4,112 | 3,696 | 4,687 | 4,169 | 3,746 | 4,942 | 4,082 | 7,073 | 4,546 | 4,543 | 3,445 | 3,608 |
| Total Flow (MG) | 143.9 | 106.9 | 156.5 | 114.3 | 146.2 | 100.2 | 144.0 | 166.1 | 131.8 | 145.7 | 126.6 | 115.0 |
| | Jan-15 | Feb-15 | Mar-15 | Apr-15 | May-15 | Jun-15 | Jul-15 | Aug-15 | Sep-15 | Oct-15 | Nov-15** | Dec-15 |
| Mean (gpm) | 3,348 | 3,229 | 3,483 | 4,553 | 4,996 | 3,914 | 3,081 | 3,182 | 2,912 | 2,936 | 3,349 | 3,139 |
| Min (gpm) | 2,424 | 2,079 | 3,052 | 2,560 | 3,059 | 2,915 | 2,363 | 3,005 | 2,473 | 2,588 | 1,451 | 1,789 |
| Max (gpm) | 3,991 | 5,157 | 4,864 | 7,778 | 6,641 | 5,131 | 3,657 | 3,374 | 3,479 | 3,726 | 3,927 | 4,356 |
| Total Flow (MG) | 188.4 | 121.1 | 140.7 | 229.9 | 201.8 | 180.7 | 133.4 | 133.1 | 142.8 | 127.1 | 77.2 | 135.6 |
| | Jan-16 | Feb-16 | Mar-16 | Apr-16 | May-16 | Jun-16 | Jul-16 | Aug-16 | Sep-16 | Oct-16 | Nov-16 | Dec-16 |
| Mean (gpm) | 3,475 | 3,393 | 2,779 | 3,139 | 3,589 | 2,887 | 3,293 | 3,383 | 3,421 | 3,371 | 3,526 | 3,341 |
| Min (gpm) | 2,223 | 2,982 | 2,324 | 2,446 | 3,167 | 2,707 | 2,656 | 2,792 | 2,873 | 2,791 | 2,491 | 2,753 |
| Max (gpm) | 4,553 | 4,137 | 3,797 | 3,718 | 4,160 | 3,024 | 3,976 | 4,264 | 3,688 | 3,886 | 4,410 | 3,918 |
| Total Flow (MG) | 135.1 | 131.9 | 136.1 | 140.1 | 160.2 | 124.7 | 132.8 | 160.8 | 152.7 | 150.5 | 152.3 | 149.1 |
| | Jan-17 | Feb-17 | Mar-17 | Apr-17 | May-17 | Jun-17 | Jul-17 | Aug-17 | Sep-17 | Oct-17 | Nov-17 | Dec-17 |
| Mean (gpm) | 3,472 | 3,093 | 2,756 | 3,627 | 3,896 | 3,258 | 3,821 | 3,869 | 2,867 | 2,963 | 3,260 | 2,771 |
| Min (gpm) | 3,153 | 2,109 | 2,327 | 3,051 | 3,344 | 2,499 | 3,362 | 3,533 | 2,106 | 2,425 | 2,963 | 1,678 |
| Max (gpm) | 3,907 | 4,404 | 3,378 | 4,567 | 4,411 | 4,185 | 4,376 | 4,323 | 3,311 | 3,466 | 3,786 | 3,177 |
| Total Flow (MG) | 150.0 | 129.2 | 119.1 | 146.2 | 190.7 | 136.0 | 154.1 | 189.4 | 119.7 | 140.8 | 131.4 | 119.7 |
| | Jan-18 | Feb-18 | Mar-18 | Apr-18 | May-18 | Jun-18 | Jul-18 | Aug-18 | Sep-18 | Oct-18 | Nov-18 | Dec-18 |
| Mean (gpm) | 2,888 | 2,706 | 2,646 | 2,890 | 2,578 | 3,052 | 3,061 | 2,877 | 2,933 | 2,814 | 2,616 | 2,908 |
| Min (gpm) | 2,141 | 2,278 | 2,166 | 2,391 | 2,008 | 2,530 | 2,351 | 2,427 | 1,864 | 1,697 | 2,100 | 2,779 |
| Max (gpm) | 4,164 | 4,093 | 3,458 | 3,502 | 3,378 | 3,903 | 3,374 | 3,585 | 3,631 | 4,466 | 3,460 | 3,240 |
| Total Flow (MG) | 120.6 | 128.6 | 102.9 | 120.7 | 129.9 | 123.0 | 149.9 | 120.1 | 118.3 | 141.8 | 105.5 | 125.6 |

Number of days in each reporting period affect total flow (MG) calculations.

** New 5-ft rectangular weir installed November 2015; December 2015 radar sensor and staff gauge relocated.

Data Sources:

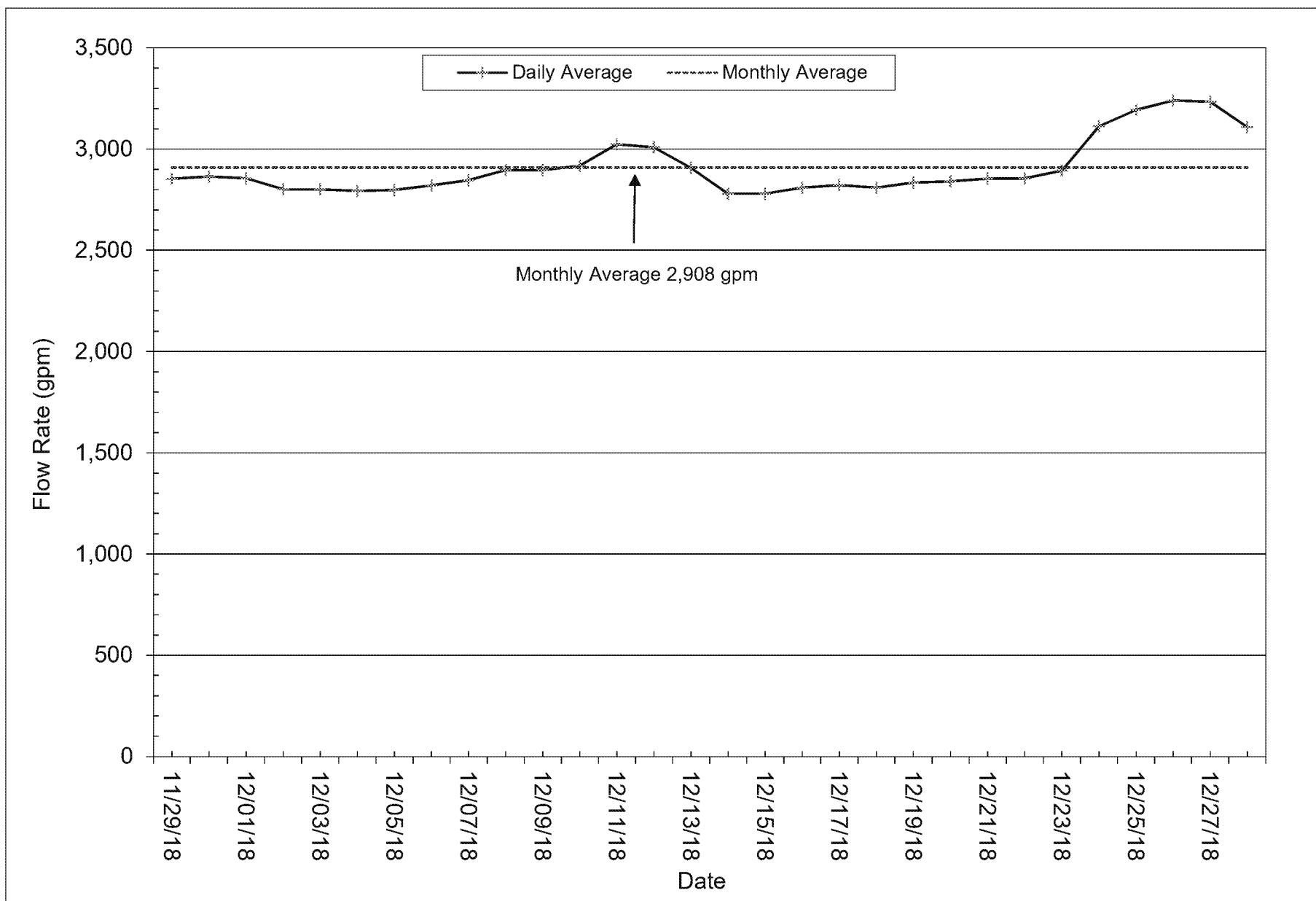
7/1/00-7/12/01 MR 24" Flume

7/6/01 90° Weir installed, Transducer installed 7/12/01.

Flume data corrected for submergence.

*Apr-Oct 7, 2002 flow rates are estimates based upon partial transducer readings and field measurements.

Montana Bureau of Mines and Geology
Butte Mine Flooding Monitoring
Horseshoe Bend Drainage
December 2018



Montana Bureau of Mines and Geology
Butte Mine Flooding Annual Report
Horseshoe Bend Drainage

